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JOURNAL
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ASIATIC SOCIETY OF BENGAL,

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VOL. XXII.
Nos. I. to VII.—1853.

“ It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of *Asia*, will commit their observations to writing, and send them to the Asiatic Society at Calcutta. It will languish if such communications shall be long intermitted ; and it will die away if they shall entirely cease.”—SIR WM. JONES.

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JOURNAL

OF THE

ASIATIC SOCIETY.

No. I.—1853.

Note by the Editors.

The two following papers by Mr. Hodgson were, with a third, which will appear in the next No. of the Journal, nearly prepared for issue in the early part of last year (1852), when they were recalled by the author, who desired more fully to amplify and digest his matter, with reference to his rapidly increasing information and larger access to books.

Illness, however, having now compelled Mr. Hodgson to suspend his investigations and repair to Europe for the renovation of his health, the Editors conceive that the publication of the papers should be no longer put off, and they are accordingly now printed with the author's assent. The important comparative list of Caucasian and Mongolian vocables has received considerable additions.

On the Indo-Chinese Borderers and their connexion with the Hindulayans and Tibetans.—By B. H. HODGSON, Esq.

To the Secretary Asiatic Society.

SIR,—In further prosecution of my purpose of recording in the pages of our Journal a complete set of comparative vocabularies on an uniform plan, I have now the honour to transmit to you two fresh series, one for Arrakan, and the other for the Tenasserim provinces. The first comprises six tongues, viz., the Burmese, the Khyeng, the Kami, the Kúmi, the Mrú and the Sák; the second, five, viz., the Burmese, the Talien, the Túng-lhú, the Shán and the Siamese.

It is needless, I presume, to apologise for thus recording provincial dialects of well known languages such as the Burmese and Siamese,

because such deviations of a known kind afford inestimable means of testing those which are unknown, and of thus approximating to a just appreciation of the interminable varieties of speech, that characterise the enormously extended family of the Mongolidæ.

I am indebted for these vocabularies to Captain Phayre whose name is a warrant for their authenticity, and who has kindly added to their value by the subjoined explanatory note upon the Arrakan tribes. On those of the Tenasserim provinces the only elucidatory addition is the important one that the Túng-lhú are "Hillmen," that is, dislocated aborigines driven to the wilds, or, in other words, broken and dispersed tribes, like the Khyeng and Kami and Kúmi and Mrú and Sák of Arrakan, whose vocables constitute the greatest part of the first half of the vocabularies herewith forwarded.

In the course of recording in our Journal these numerous vocabularies, I have purposely avoided any remarks on the affinities they suggest or demonstrate, intending to take up that subject when they should be completed: but the high interest* excited by my Himálayan series, in connexion with the bold and skilful researches which are now demonstrating the unparalleled diffusion over the earth of that branch of the human family to which the Himálaysans belong, has induced me on the present occasion to deviate partially from that rule and to at once compare Captain Phayre's Arrakanese vocables with my own Himálayan† and Tibetan ones. Having been so fortunate as lately to procure an ample Sifanese series, comprising the tongues of the several peoples bordering on China and Tibet between Kokonúr and Yúnán, and having moreover made some progress in a careful analysis of a normal and of an abnormal sample of the Himálayan tongues, with a view to determining the amounts of the Turánian and Arian elements, I shall ere long find occasion to recur to the general affinities of the Indian Mongolidæ. In the meanwhile the subjoined comparison of several Arrakanese tongues with those of Tibet and of the Eastern Himálaya will be read with surprise and pleasure by many who, accustomed to regard the Himálaysans as Hindus, and the Indo-Chinese, like the Chinese, as distinct from the

* Latham's History of Man and Ethnology of British Colonies.

† My own Himálayan series will be found in the Journal, No. 185 for Dec. 1847. The Arrakanese series is annexed hereto.

people of Asie Centrale, and from the Tibetans, will be astonished to find one type of language prevailing from the Káli to the Koladán, and from Ladakh to Malacca, so as to bring the Himálayans, Indo-Chinese and Tibetans into the same family.

That such, however, even in the rigid ethnological sense, is the fact will hardly be denied by him who carefully examines the subjoined table, or the documents from which it is taken, because not only are the roots of the nouns and verbs similar to identity, but the servile particles are so likewise, and that as well in themselves as in the uses made of them, and in the mutations* to which they are liable. It should be added that the resemblances cited are drawn not from "ransacked dictionaries" but from vocabularies of less than 300 words for each tongue.

To those who, not content with this abstract, shall refer to the original documents, I may offer two remarks suggested by their study to myself. 1st, The extraordinary extent to which the presently contemplated affinities holds good, has been made out by the helps afforded by the series of eognate tongues, whereby the synonyma defective in one tongue are obtained from another, whilst the varying degrees and shades of deviation are a clue to the root or basis.† 2nd, The other remark suggested by the comparison of the vocabularies is, that it is the nouns and verbs, and *not* the pronouns and numerals, which constitute the enduring part of these languages; and that consequently, whatever may be the case in regard to the Arian group of tongues, we must not always expect to find the best evidence of family connexion in regard to the Turanian languages among the pronouns and numerals. Indeed the confused character of these parts of speech seems to be a conspicuous feature of the Mongolian tongues.

* In order to appreciate this remark and to trace the elements of the vocables, see analytic observations of the following paper on Caucasian and Mongolian words, appended to the list of those words.

† Take the radical word for dog, as a sample. We have khyi, khíá, khí, ká, khwé, kwé, kwí, kú, kí-chá, kú-chú, khó, kyó, cho-i. For the appended particles and their mutations I must refer to the original documents, and to the future confirmations to be supplied by my Sifánese series of words.

Comparison of Tibetan and Himálayan tongues on one hand, and of the Indo-Chinese on the other.

Blood.—Thak in Bhotia, Thyak in Lhópa, Vi in Lepcha.*

Thwé in Burmese, Thé in Sák, Ka-thí in Khyeng, A-ti in Kami, Wi in Mrú.

Boat.—Thú in Sérpa.

Thé in Burmese.

Cat.—Si-mi in Bhotia, Si-mi in Sokpa.

Min in Khyeng, Min in Kami.

Crow.—O'-la in Lhópa, A'-wá in Limbu.

O'-á in Kúmi, Wá á in Kami and in Mrú.

Day.—Nyi-ma in Bhotia, Nhí in Newári, Nyim in Lhópa.

Né in Burmese, Ni in Mrú.

Dog.—Khyi in Bhotia, Khi in Lhópa, Kú-chú in Kiránti, Ki-cha in Newári, Khia in Dhimali.

Khwé in Burmese, Ta-kwi in Mrú, Kú in Sák.

Ear.—Ná in Bhotia, Na-vo in Lhópa.

Ná in Burmese, Ka-ná in Sák.

Eye.—Mig in Bhotia, A-mik in Lepcha, Mó in Múrmí and Gúrúng.

Myé-tsi in Burmese, A-mi in Kámi and Sák, Min in Mrú.

Father.—Phá in Bhotia, Amba in Limbú.

Phá é in Burmese, Ampa in Kúmi.

Fire.—Mé or Mi in Bhotia, and in all Himálayan tongues.

Mí, Má, Má i in Burmese, Kámi and Mrú.

Fish.—Nyá in Bhotia, Ngyá in Lhópa, Ngó in Lepcha, Nyau in Súnwár.

Ngá in Burmese, Ngú in Khyeng, Nghó in Kami.

Foot.—Káng in Bhotia, Káng in Lhópa, Khwe-li in Súnwár.

Khyé in Burmese, Ká-kó in Khyeng, Khou in Kúmi.

Goat.—Rá in Bhotia.

Ta-rá in Mrú.

Hair.—A-chóm in Lepcha, Chúm in Magar.

A-shám in Kami, Shám in Mrú and Kúmi.

Head.—Gó in Bhotia.

Ghóng in Burmese.

* The first line gives the northern series, the second the southern.

Hog.—Phak in Bhotia and Lhópa and Kiránti, Wak in Magar.

Ta-pak in Mrú and Vak in Sák.

Horn.—Ar-kyok in Sérpa, A-róng in Lepcha.

A kyí in Khyeng, A-rúng in Sák.

Horse.—Tá in Bhotia and Lhópa, Sa la in Newári.

Tá-phú (phú male suffix) in Kámi, Sapú in Sák (pú idem).

House.—Khyim in Bhotia and Lepcha. Yúm in Magar.

Kyim in Sák, Kim in Mrú; Um in Kúmi.

Man.—Mi in Bhotia and most Himálayan tongues, Maro in Lepcha,

Múrú in Súnwár.

Ka-mi in Kámi, Mrú in Mrú dialect.

(Ka-mi in Newári means crafts-man).

Moon.—Lá-va in Bhotia, Lhópa, Lepcha, &c. &c.

Lá in Burmese and Khyeng, Pú-lá in Mrú.

Mountain.—Gún in Newári.

Ta-kún in Kami.

Name.—Ming in Bhotia and Lhópa and Limbú and Múrmi, Náng in Newári.

A-mí in Burmese, A-mín in Kamí, Na-mí in Khyeng.

Night.—Sa-náp in Lepcha.

Nyá in Burmese.

Oil.—Si-di in Magar.

Shi in Burmese and Kami and Mrú, Si-dak in Sák.

Road.—Lam in Bhotia and all the Himálayan tongues.

Lam in Burmese, Khyeng, Kami, and Sák.

Salt.—Tshá in Bhotia and Lhópa, Chhá in Himálayan tongues

(most) Súng in Bodo.*

Shá in Burmese, Tsi in Khyeng, Súng in Sák.

Skin.—Pá-kó in Lhópa, Dhi in Gúrúng, Di in Múrmi.

Pé in Kúmi, Pi in Mrú.

Sky.—Mú in Múrmi, Mún in Gúrúng.

Mú in Mrú, Mó in Burmese.

* My Bodo and Dhimál vocabularies will be found in the Journal as well as the Himálayan series. I take this occasion to intimate my now conviction that the Bodo, Dhimál and Kocch tribes belong to the Tibetan and Himálayan stock rather than to the Tamilian; that is, with reference to India, to the more recent race of Tartar immigrants, not to the more ancient and more altered.

Snake.—Búl in Magar, Bú-sa in Súnwár.

Phúl in Khyeng, Pú-vi in Kúmi.

Stone.—Lóng in Lepcha, Lúng in Limbú, Lhúng in Magar.

Lún in Khyeng, Ka-lún in Kami, Ta-lún in Sák.

In the verbs, again, we have

Eat.—Sá in Lhópa, Zó, Só, in Bhotia, Ché in Limbú, Chó in Keránti.

Sá in Burmese, Tsá in Kami, Tsà in Kúmi.

Drink.—Thúng in Bhotia, Thóng in Lhópa, Thúng in Limbú and

Múrmi, &c.

Thouk in Burmese.

Sleep.—Ip in Súnwár, Ip in Limbú, Im in Kiránti.

Ip in Khyeng, I' in Kami, I' in Kúmi.

Laugh.—Yé in Limbu, Nyé in Múrmi, Nhyú in Newári.

Yé in Burmese, A-nwi in Khyeng, Am-nhwi in Kúmi.

Weep.—Nú, ngó, in Bhotia, ngú in Lhópa and Sérpa, Khwó in Newári.

Ngó in Burmese, and Khá in Kami.

Say, tell.—Shód in Bhotia.

Shó in Burmese.

Come.—Wá in Newári.

Vá in Kami.

Go.—Lau in Súnwár.

Lá in Kami and in Kúmi.

Sit down.—Det in Serpa, Ngú-ná in Magar.

Tat in Kúmi, Ngún-gé in Khyeng.

Move, Walk.—Dyú in Lhópa.

Kyú in Burmese.

Run.—Chóng in Sérpa, Lóyá in Kiránti.

Chó-né in Khyeng, Lei in Kúmi.

Give.—Bin in Bhotia and Lhópa, Pí in Limbú, Pai in Kiránti, Pen in Gúrúng.

Pé in Burmese, Pé gé in Khyeng, Pei in Kúmi.

(Ná pú in Kami=Náng in Bhotia asks for self.)

Take.—Yá in Bhotia, Lyo in Lepcha, Lé in Limbú.

Yú in Burmese, Lá in Kami, Ló in Kúmi.

Kill.—Thód in Gúrúng, That in Bódó.

That in Burmese.

Hear, attend.—Nyen in Bhotia and Lhópa and Lepcha, Nyo in Newári.

Né in Khyeng, Ka-ná-i, in Kami.

Remark, the materials for the above striking comparative view are derived from my own original vocabularies for the northern tongues, as published in the *Journal* No. 185, for December 1847, and from Capt. Phayre's for the southern tongues, hereto appended.

It is seldom that vocabularies so trustworthy can be had, and had in series, for comparison; and yet it is abundantly demonstrable that every thing in regard to the discovery of the larger ethnic affinities of dispersed races depends upon such a presentation of these materials, the distinction of roots and of servile particles, as well as the range of synonymous variation, in each of these classes of words, being thus only testable, and these points being all important as diagnostics, even more so than grammatical peculiarities which, at least in our sense, are apt to be excessively vague, or else palpably borrowed, among the Mongolidæ. Syntactic poverty and crudity and etymological refinement and abundance seem to be the characteristics of this vast group of tongues, and hence the importance of its vocables and the necessity of obtaining them in a state accurate enough for analysis, and copious enough to embrace the average range of synonymes.

A common stock of primitive roots and of serviles, similarly employed, indicates unmistakeably a common lineage and origin among the several races to which such stock belongs: preference for this or that synonyme among the radicals, as well as various degrees and modes in the employment of serviles, whether prefixed, infixes or postfixed, indicates as unmistakeably the several branches from the same family stem with the relative ages and distances of their segregation. By the above comparison of vocabularies I purpose to illustrate the common lineage of tribes now and for ages most widely dispersed, and of which the intimate relationship is ordinarily overlooked: by a subsequent and more detailed examination somewhat differently conducted, I will endeavour to illustrate the true character of the minor distinctions of race, showing that these distinctions are by no means inconsistent with the common lineage and family relationship now exhibited.

Comparative Vocabulary of Indo-Chinese borderers in Arrakan.

English.	Burmese or My- amma.	Khyeng or Shou.	Kami.	Kúmi.	Mrú or Toug Mrú or Myú.	Sak
Air	Lé	Klí	Ga-lí	A-lí	Ra-li	Mwi-ya-hé
Ant	Payuetseik	Lhing-zá-mí	Ba-lin	Pa-lin	Loung-tsa-ring-já	Phún-si-gyá
Arrow	Myá	Thwá	Lí	Lá-tá-i	Sá, or qwá-i	To-lí-ma-lá
Bird	Nghet	Hau	Ka-vá or ta-vá	Ta-wú	Wi	Wá-sí
Blood	Thwó	Ka-thí	A-thí	A-thí	Loung	Thé
Boat	Thé	Loung	M'loung	P'loung	A-hot	Hau
Bone	Ayo	Ka-yok	A-hú	A-hú	Ná	A-mrá
Buffaloe	Kyuai	Nau	Ma-ná	P'an-no	Kro	Heing
Cat	Kyoung	Mín	Mín-bo-i	Mín-cho	Ta-myín	Tha-múk
Cow	Núa	Sharh	Kha-bo-i	Si-rá	Tsi-yá	Wúk-ká
Crow	Kyí	Ang-au	Wa-á	O'-á	Wa-á	Yat-ta
Day	Né	Ko-nup	Ma-ni	Ka-ni twun	Ni	Kú
Dog	Khwé	U'-i	U'-i	U'-i	Ta-kwí	A-ka-ná
Ear	Ná	Ka-nhau	A-ga-ná	Ka-no	Pa-rám	Ká
Earth	Myó	Det	Ka-lai-hong	Ka-loung	Kroung	Wa-tí
Egg	U	To-i	Du	Dú-i	Dú-i	U-kú
Elephant	S'hen	Mwí	Ka-sai	Ka-sá-i	Nga-s'hait	A-mí
Eye	Myetsi	Mí-ú-i	A-mí	Mé	Mín	A-bá
Father	Phá-ó	Pau	Pá-éi	Am-po	Pá	Bá-in
Fire	Mí	Mí	Ma-i	Mhá-i	Má-i	Pan-ná
Fish	Ngá	Ngau	Mo-í	Ngho	Dám	A-pán
Flower	Pán	Pa-pá	A-pá	Ka-shyoung	Pá-ou	A-tar
Foot	Khyé	Ka-ko	A-kho	Khou	Khok	Ki-bí
Goat	S'heik	Ma	Tso-bé	Mí-é	Ta-rau-a	Kú-mí
Hair	S'haben	Lau-sám	A-s'liám	S'liám	S'liám	Ta-kú
Hand	Lét	Kúth	A-kú	Ka	Rút	A-khú
Head	Ghoung	Lú	A-lú	A-lú	Lú	

Hog	Wet	O	A-ou	Ta-pák	Vák
Horn	Ghyo	At-ta-kí	Ta-ki	A-náng	A-rung
Horse	Shé	Ta-phú	Koung-ngú	Ko-ra-ngá	Sápú
House	I'm	I'n	U'm	Kín	Kým
Iron	Thí	S'hein	Ta-mhú	Loung-há	Théin
Leaf	Shé	La-háng	N'gám	A-rám	Pwín-ták
Light	...	A-ván-da-gá	...	Wa-tá-i	...
Man	Kláng	Ka-mí	Ku-mi	M'ru	Lú
Monkey	Young	Ka-lai	Ka-la	Ta-yút	Ka-wuk
Moon	Khlaui	Lá	Hlo	Pú-lá	Thaf-tá
Mother	Nú	Na-ú-i	Am-nú	A-ú	A-nú
Mountain	Toung	Ta-kún	Mo-i	S'hung, or t'ung	Ta-ko
Mouth	Hak-kau	A-ma-ká	Li-boung	Naur	Ang-sí
Musquito	Young-yán	Kán-sa-ká	Chán-ráng	Ta-tsáng	Pí-chí
Name	Nami	A-min	A-min	E-mi	Tú
Night	A-yán	Ma-khún	Wa-dúm	Wár	Ha-ná-hé
Oil	To	S'hí	Sa-rou	S'hí	Sí-dák
Plantain	Nhám-pau	Ka-tí	Kú-ti	Deng-kú-i	Tsa-ú
River	Ha-loung	Ka-vá	Ka-wú	An	Pi-si
Road	Lám	Láng	Lám	Ta-má	Láng
Salt	Tsí	Ma-lo-i	Pi-lo-i	Wí-s'há	Súng
Skin	Wún	A-phú	Pé	Pí	Mí-lak
Sky	Han-mhi	Khau, or, Khú	Ka-ní	Mú	Koung-gounglak
Snake	Phol	Ma-khú-i	Pú-wi	Ta-ro-a	Ka-pú
Star	A'a-shé	A-s'hí	Ka-sí	Ki-rek	Tha-geing-thi
Stone	Lún	Ka-lún	Lún-s'houng	Ta-w'há	Ta-lón
Sun	Ko-nhi	Ka-ní	Ka-ni	Ta-nin	Sa-mi
Tiger	Kyí	Ta-ká-i	Ta-ká-i	Ta-pri	Ka-thá
Tooth	Ka-lau	A-fhá	Ho	Yún	A-tha-wá
Tree	Thin	A-kún	Din-koung	Tsing-dúng	Púng-pang
Village	Nám	Váng	A-váng	Kwá	Thing
Water	Tú-i	Tú-i	Tú-i	Tú-i	O
Yam	Ba-há	Khá	Ho	Mau	Káng-kú

Comparative Vocabulary of Indo-Chinese borderers in Arakan.

English.	Burmese.	Khyeng.	Kami.	Kúmi.	Mrú or Toung Mrú.	Sák.
I	Ngá	Kyi	Ká-i	Ká-i	...	...
Thou	Men or nen	Nang	Nán	Nang	...	...
He	T'hu	Ni	Ha-ná-i	Hú	...	...
She	...	...	...	...	...	...
It	...	...	...	...	...	...
We	Ngá-do	Kin-ní	Ka-chí	Ká-i-no	...	...
Ye	Mendo	Nang-ní	Nán-chí	Náng-chí-no	...	...
They	Thúdo	Ni-di or ni-li	Hún-na, or ha-ni-	...	...	...
Mine	Ngái	Ki-ko	Ká-i-un	...	...	...
Thine	Meni	Nang-ko	Nán-un	...	...	...
His	T'úi	Ni-ko	Ha-ná-i-un	...	...	...
Our's	Ngádoi	Ki-ni-ko	Ká-chi-un	...	...	...
Your's	Mendoi	Nang-ni-ko	Nán-chi-un	...	...	...
Their's	T'hu doi	Ni-di-ko	Ha-ni-chi-un	...	...	...
One	Tít	Nhát	Há	Há	Loung	Sá-war
Two	Nhít	Pan-nhí	Ní	Nhú	Pré	Neu
Three	T'hou	Thúm	Ka-tún	Tún	Shún	T'in
Four	Lé	Lhi	Ma-lí	Pa-lú	Ta-lí	Pri
Five	Ngá	Nghau	Pang-ngá	Pán	Ta-ngá	Ngá
Six	Khyouk	Sauk	Ta-i	Ta-rú	Ta-rú	Khyouk
Seven	Khun-nhít	Shé	Sa rí	Sa-rú	Ra-nhít	T'ha-ni
Eight	Shyít	Sát	Ka-yá	Ta-yá	Rí-yát	A-tseit
Nine	Ko	Ko	Ta-ko	Ta-kan	Ta-kú	Ta-fú
Ten	S'hai	Há	Ha-suh	Hau	Há	Si-sú
Twenty	Nhít s'hai	Kúr	Kú-suh	A-pum-ré	Pi-ra-mí	Hún
Thirty	Thon s'hai	Tún gíp	Kú-i-thún	M'phá-i-ré	Tsum-gaum	Thou-si
Forty	Léz hai	Lhi-gíp	Kú-i-ma-lí	Wú-pa-lú-rí	...	Pri-sí
Fifty	Ngáz hai	Nghai-gíp	Kú-i-pang-ngá	Wí-pá-rí	...	Ngá-sí
A hundred	Tayá	Klá-át	Ta-rá	Chum-wa-rí	...	Ta-yá
Of	I	...	U'n	...	...	...

To	A'	A'	...	...
From	Gá	Ná-i	...	...
By	Phyen	Má	...	...
With	Nhen	Há-i	...	...
Without	...	...	...	...
In	Nheik	Yá	...	...
On	Bomhá	A-koung-be	...	...
Now	Yakhu	A-vá-i	...	...
Then	Tho akhá	Hó-ná-i-gán	...	...
When	Bhet'ho khá	Há-ni-kán	...	...
To-day	Yané	Wei-ní	...	...
To-morrow	Netphan	Chá-khon	...	...
Yesterday	Yamanné	Yá-dúm	...	...
Here	T'ímhá	Hí á, or yá	...	...
There	Homhá	Há-bhé	...	...
Where	Bhemhá	Ná-ná-bé	...	...
Above	Apomhá	A-koung-bé	...	...
Below	Ouk mhá	Tung-bé	...	...
Between	Akyá mhá	Thinbé or u-thim-á	...	...
Without,	Pyen mhá	A-khám-bé	...	...
Within	Atwen	Dú-gá-mé	...	...
Far	Wé	Tsú-a a-lhau a-me	...	...
Near	Ní	Khán-lá	...	...
Little	Seikthalé	Nei	...	...
Much	Myá	Tsei-dú-to	...	...
How much ?	Blélouk	Pá, or, ong-jé	...	...
As	Gét'ho	Ha-yé-to	...	...
So	Lo, tho	Hí-ná-i	...	...
Thus	T'he-né	Ka	...	...
How	Bhé tho	Ná-ha-bé	...	...
Why	Bhé pyulo	Ta-ú-sá-né	...	...
Yes	Hokhé	Ta-ko-ká	...	...
No	Mahok	Na-u-ká	...	...
		Nán	...	...
		Na-o	...	...

Comparative Vocabulary of Indo-Chinese borderers in Arakan.

English.	Burmese.	Khyeng.	Kami.	Kúmi.	M'ru or Young Mrú	Sák
(Do) not	Ma (pya) nhen	Né-é	Ná or nan			
And, also	Ligoung	...	...	
Or	Thomahok	...	...	
This	I', thí	Ní	Hí			
That	Tho, hó	Oní	Ma-há			
Which?	Abhé	I'-ní-a-ka	Na-na-i			
What?	Bhá	I'ní-hám	...			
Who?	Bhét'hú	U'-lí-am	A-pá-i-mé			
Any thing	Bhámhya	...	Ta-ú-i			
Any body	Bhéthúmhya	...	A-pá-i-mé			
Eat	Sá	E'	Tsá	Tsá		
Drink	T'houk	U'-é	Nei	Nei		
Sleep	Eik	I'p	I	I'		
Wake	No	Kakák	Thá	An-thá		
Laugh	Yé	A-nwí	Ma-nwí	A'm-nhwi		
Weep	Ngo	A-káp	Khá	A-wú		
Be silent	Teiksheikné	Mhé	On-vo	...		
Speak	Pyo, s'ho	Há-we	Ta-pé	Tho-i		
Come	La, youk	fo	Va	You		
Go	T'hwá	Tsit	Lá	Lá		
Stand up	Thá, mát	Tún-e	Ka-do	A'ng-thou		
Sit down	Thaing	Ngúnge	Ka-nú	Tat		
Move, walk	Lé, kyua	...	...	...
Run	Pyé	Cho-né	A-whí	Lei		
Give	Pé	Pe-ge	Na-pú	Pei		
Take	Yú	Sí	Lá	Lo		
Strike	Yáik, pok	Mo-lé	Ma-lé	Pu khou-orathum		
Kill	Thát	Tú-e	Dú-rhum-ma-ló	Pu-khou		
Bring	Yú ghé	...	Ma-há-i	Lo		

Take away	Yut/wá	Yout-ké	Lá-há-i	Lo-dé
Lift up, raise	Mhyouk	Ka-yank	Ta-khún	Ka-tán
Hear	Kyá	Né	Thá-i	Thá-i
Understand	Lé, thí	...	Ka-ná-i	...
Tell, relate	S'ho kyá	...	Hú-i	Thó
Good	Koung	Be	S'hau	Hau-i
Bad	S'ho	Po-ya	Dé, or, di	Hau-i-o
Cold	E'	Ka-young	Bí	Si-wá-i
Hot	Pú	Kho-leik	Ká-s'hi	Bí
Raw	Seing	Tein	Mín	Káng-hei
Ripe	Mhé	Tú-i	Tú	Mhún
Sweet	Khyo	To	Khá	Tú-i
Sour	Khyin	Khan	A-non	A-hó
Bitter	Khá	Pan-i	A khé-sung	A-kho
Handsome	Lhá	A-si-i	To	Ho-i
Ugly	Ayups'ho	Klún	Ta-ko	Ho-i-o
Straight	Phyung	Ko-lák	Ma-nún	Tau
Crooked	Kouk	Kán	A-lún	A-kwé
Black	Net	Bak	F'	Kan-núm
White	Phyú	Sen	Ma-ein-sin	Kan-lún
Red	Ní	Nau	Sá	Kan-lein
Green	Seing	Sou	Dó-i	Kan-hein
Long	Shé	Twé	Ka-sá	A souk
Short	To	Lhún	Dó-i	Do
Tall	Myin	Ná-ó	Spi	...
Short	Neing	Len	Pú-lú	...
Small	Ngé	Pú-lú	Kyí-thí	A-thám
Great	Kyí	Kyí-thí	Phá-dá	Lén
Round	Lun	Pé	Lén	Ta-ki
Square	Lédhoung	Tho-i	Tá-pá	Kam-po
Flat	Pýá	Pám	Má-sá	Len
Fat	Wá, tok	Ka-no	Tú-i ma-khang	Thán
Thin	Shyá	Tú i-lan-a-đu-i	Búk ma-khang	A-kom
Weariness	Mo, pen-bán	Bu-lan-a-đu-i		Tú-an-hei
Thirst	Yé ngát			Bé-on lám.
Hunger	Sa ngát			

Note to accompany Vocabularies of languages spoken by Tribes in Arakan.

1.—BURMESE.

This is the language of the Arakanese people, who for the most part live in the lowlands, and on the sea-coast of the country called Arakan. Provincial words occur in this language, differing from those of Burmah proper, and the pronunciation in Arakan varies considerably from that current in the valley of the "Irrawaddy;" yet the written languages of both countries are for the most part alike. Thus the word for a day written ရက် is pronounced Rák by the Arakanese, but by the Burmese is softened to Yet: the word for water is called by the Arakanese Rí, by the Burmese Yé. It is written with the same letters by both people. The Arakanese and Burmese are of the same race, and have the common national name of *Myam-má*, which is however a comparatively modern appellation for the several tribes, into which the race was originally divided. The term Mug is applied by the people of India to the Arakanese. It is exclusively a foreign epithet, unknown to the Arakanese themselves. It probably takes its origin from the tradition of a tribe of Bráhmans, termed *Mágas*, said to have emigrated Eastward from Bengal.

2.—KHYENG.

This name is given by the Burmese and Arakanese to a numerous race of people who live in the high range of mountains called *To-má* (that is "great ridge," or "back-bone"), which separates Arakan from the valley of the Irrawady. These people call themselves *Shyou* or *Shyú*. The word Khyeng (pronounced Khyáng or Kyáng by the Arakanese) is probably a corruption of *Kláng** their word

* Perhaps so; but Kyáng or Khiáng is a well known ethnic designation to the Northward where, by the way, with Chinese and Tibetans many of the ethnic designations of the Indo-Chinese region are familiar terms of their own, as Mon, Lho, Lao, Sák, Kyáng, Myau. Nearer at hand we have, as terms allied to Khyeng, Rakheng (whence our Arakan for "the Mugs;") Khyi for the "Cossiahs," Kho vel Kyo and Ká for Kambojian tribes, and Ká Khyen for "the Kariens," whilst the Kambojian Kyo vel Gyo re-appears in the Kho of the Koladyne river, and in the "Moitay" of Manipúr, we have the combined appellations of the Siamese Tai,

for man; and their own present distinctive name for their tribe, is no doubt recently adopted. An Arakanese in writing down for me words from the mouth of a man of this race, wrote Khyáng for what appeared to me to have the sound of *Kláng*. The Khyeng country extends along the Yo-má range (which runs nearly N. N. W. and S. S. E.) from about the nineteenth to the twenty-first degree of North latitude. The people inhabit both the Burmese and British side of the range. The ascertained number of this race under British rule in Arakan is 13,708 souls. An equal number probably reside within the Burmese territory. There are also a large number of Khyeng tribes, which though living within the nominal British frontier, yet from the rugged inaccessible nature of their country, are really independent, and which have never yet submitted to any foreign Government, whether Arakanese, Burmese, or British. Their language is unwritten. There appears to be some difference of dialect between the Northern and Southern tribes of Khyeng. The words here given were taken from a man belonging to the Northern tribes. The Khyengs believe themselves to be of the same lineage as the Burmese and Arakanese, the stragglers from armies or moving hordes, left in the mountains.*

3.—KAMI' OR KU'MI'.

This race of people, of which there are two divisions called by themselves Kamí vel Kimi and Kúmí, and by Arakanese respectively Awa Kúmí and Aphyá Kúmí, inhabits the hills bordering the river which is named by the Arakanese *Kuláddán*, (that is, limit or border of the *Kula* or Western foreigner) and by the Kamís *Ye-man*, by the Kúmís *Yan pán*. It is the chief river of Arakan. It is probable that the Kamís and Kúmís have not been settled in their present

and the Kochin Chinese "Moy." In other words, the Manipurian trihe, called Cossiahs by the Bengáls, belong to the Moí section of the great tribe called Tai by themselves and Shán vel Syán by the Burmese, the sectional name being also foreign, and equivalent to the native? Khyi or Khyáng of Chinese and Khyeng of Burmese.—B. H. H.

* This native tradition and opinion accord with what follows relative to the Khyau and Mrúng in corroborating the doctrine which assigns the whole of the border mountaineers towards Ava, or inhabitants of the Yo-má range from Assam to Arakan, to the Rakheng division of the Myam-ma.—B. H. H.

seat for more than five or six generations. They gradually expelled therefrom a tribe called Mrú or Myú. The Kamí clans are now themselves being disturbed in their possessions by more powerful tribes, and are being gradually driven Westward and Southward. They state that they once dwelt on the hills now possessed by the Khyengs, and portions of the tribe have been driven out by the latter within the memory of man. The language of the Kamí portion of this interesting race has lately been reduced to writing by the Rev. Mr. Stilson of the American Baptist Mission. The Kamí words entered in this vocabulary have been chiefly furnished by an intelligent Kamí young man educated by that gentleman, and are more to be depended upon than the other portions. For it is exceedingly difficult to acquire from savages through the medium of a language foreign to them, any words but those which they use to designate some object or quality. The number of Kamís within the British territory amounts to 4,129 souls. They are divided into several clans, each having a distinctive name. The dialects of these clans differ more or less from each other. Many clans are independent.

4.—MRU' OR TOUNG MRU'.

This is a hill tribe now much reduced from its ancient state. They once dwelt on the river Kuládán and its feeders, but have been gradually driven out by the Kamí tribe. They have therefore emigrated to the West, and occupy hills on the border between Arakan and Chittagong. The Rádzaweng, or history of the Arakanese kings, refers to this tribe as already in the country when the Myam-ma race entered it. It states also that one of this tribe was chosen king of Arakan about the fourteenth century of the Christian era. The traditions recorded in the same work also imply that the Mrú and Myam-ma races are of the same lineage, though this connection is denied by the Arakanese of the present day, who regard the Mrú tribe as "wild men" living in a degraded state, and consider that it would be disgraceful to associate with them. The number of the Mrú tribe in Arakan amounts to about 2,800 souls. Their language is unwritten. They call themselves *Mrú*. *Toung Mrú** is a name

* *Toung* means wild, uncultured, as "hill men" with us and Pahari or Parbatia with Hindus. Mrú alias Myú=Myau of Chinese which again=Kyáng.—B. H. H.

given to some of their clans by the Arakanese. *Mrú* is also used by the Arakanese as a generic term for all the hill tribes of their country. The word *Khyeng* is occasionally used in the same sense.

5.—SA'K.

This is a very small tribe mentioned by Buchanan in his paper "on the religion and literature of the Burmese." *Asiatic Researches*, Vol. VI. p. 229. He calls them "Thæk," (that being the Burmese pronunciation of the word,) and states that they are "the people inhabiting the Eastern" branch of the Nauf river, and are called by the Bengális *Chatn* and "Chatnmas." *Chatn* is no doubt meant for *Sák* which is the name, these people now give themselves. Their language is unwritten.

There are other tribes in Arakan who have languages or dialects peculiar to themselves. They consist of but a few families, and some no doubt are the descendants of captives brought into the country several generations back by the Arakanese, in their warlike expeditions against the adjoining countries. Of these, the language of the tribe called *Dáing-núk* appears to be a rude corrupt dialect of Bengálí. The tribe called *Mrúng* state that their ancestors were brought as captives from the Tripúra hills. There is also a curious tribe called *Khyau** in the *Kulúdan* country, consisting of not more than from fifty to sixty families. I have not yet been able to obtain satisfactory vocabularies of the languages of these last named three tribes, but they will be procured on the first opportunity. I regret

* Kyo aforesaid? The tradition would ally them with the Kúki and Khyí, whence Kyo, Khyen, Khyi, and Kúki may be conjectured to be radically one and the same term, and to be an opprobrious epithet bestowed by the now dominant races of Indo-China upon the prior races whom they have driven to the wilds, for Khyi, Kyi, Kí, Kú has the wide spread sense of *dog*. Not one of these tribes is known abroad by its own name. Kami may be readily resolved into "men of the Ka tribe," the Ka being a proper name or merely an emphatic particle. Ka, mutable to Kí and Kú, is a prefix as widely prevalent in the Himálaya and Tibet as the word *mí* for man. The Kamís themselves understand the word in the latter sense—a very significant circumstance quoad affinities. Ka prefix is interchangeable with Ta, (Ka-va or Ta-va, a bird in Kamí, and so in most of these tongues,) and Ta varies its vowel like Ka; and thus, in Gyarúng, tir-mi, a man, answers Kimi, a man. Ex his disce alia.—B. H. H.

that there are so few words of the *Mrú* and *Sák* languages given, but as some time might probably elapse before they could be procured, I considered it best to forward them in their present state.

MEMO.

Scheme of vowels, &c. &c. a to be sounded as a in America.

á	..	..	..	..	..	a in Father.
i	..		..	..	..	í in in.
í	..	..	..	..	..	i in police.
U	..		..	..	..	u in push.
ú	..	..	..	..	..	oo in foot.
e	..		..	..	..	e in yet.
é	..	..	..	..	..	e in there.
ai	..		..	..	..	ai in air.
ei	..	..	..	..	..	i in mind.
ou	..		..	..	..	ou in ounce.
au	..	..	..	..	..	au in audience.
o	..		..	..	..	o in note.
th	..	..	..	..	..	th in thin,
the aspirate of t.						

I have endeavoured to express the sounds of the *Khyeng* and *Kamí* languages as near as I can, but there are a few which I could not exactly convey through any combination of European letters.

N. B.—In the next or Tenasserim series of words the system of spelling followed is the common English. I have not deemed it prudent to alter it. These words were taken down by Dr. Morton, not Capt. Phayre, as above inadvertently stated. Valuable as they are, they lack the extreme accuracy of Capt. Phayre's series, and hence I have not extended my comparisons over them.—B. H. H.

English.	Burmese or Myanma.	Talien or Môn.	Toung-lhoo	Shán.	Siamese.
Air	Lá	Kya	Ta-lee	Lónma	Lon
Ant	Parwet	Khamol	H-tung	Mot	Mot
Arrow	Hmya	Lau	Pla	Pén	Tsán
Bird	Hngét	Khaten	A-wa	Hnót	Hnót
Blood	Thwáy	Htsein	Thway	Leet	Leét.
Boat	Hlá	Hlo	Phray	Hó	Ró
Bone	Ayo	Htsot	Htsot	Sot	Katot
Buffaloe	Kúwai	Parén	Pay-nay	Kwihn	Khwa
Cat	Kyong	Pakway	Nyen	Myoung	May
Cow	Nwau	Karau	Phou	Wó	Ngwau
Crow	Kyée-gan	Khatat	Zank-ay	Ka	Ka
Day	Na	Ta-ngway	Mo-yay	Kawon	Wan
Dog	Khwa	Kala	Htwe	Ma	Ma
Ear	Nau	Khato	Nau	Hoo	Hoo
Earth	Myá-ghee	Te	Ham-tan	Sen	Teín
Egg	O'-o	Khatsan	De	Khiht	Khu
Elephant	Tsheng	Tsing	Hsan	Tsan	Htsann
Eye	Myet-sé	Mot	May	Mat-ta	Ta
Father	A-hpa	Má	Phá	Pau	Hpau
Fire	Mée	Ka-mol	May	Hpihn	Thwa
Fish	Ngá	Ka	Lita	Pa	Para
Flower	Pan	Koung	Ken	Mau	Towkna
Foot	Khyá-hloutk	Htsihn	Khan	Ten	Ténn
Goat	Htsiet	Khapa	Bay	Pá	Hpa
Hair	Htsa ben	Swet	Ta-lu	Khon hó	Hpóhn
Hand	Let	Tway	Su	Mee	Mó
Head	O-hkoun	Katau	Katu	Ho	Kanon

Comparative Vocabulary of Indo-Chinese borderers in Tenasserim.

English.	Burmese or Myam- ma.	Talien or Mon.	Toung-Ilhoo.	Shán.	Siamese.
Hog	Wet	Kalet	Htau	Moo	Moo
Horn	Gyo	Kareng	Nung	Khoung	Khoung
Horse	Myén	Chway	Thay	Ma	Ma
House	*Seng	Hnye	Sam	Hien	Rau
Iron	Thán	Kasway	Say-thee	Leit	Leet
Leaf	Avuet	Kana-litsoo	Lay	Moung-mán	Pilm-ma
Light	Aléng	Rá	Lita lay	Alen	Psa-won
Man	Loo-youk-ya	Karoo	Lan	Konpoo-trilin	Hpoohitso
Monkey	Myouk	Ka-nwee	Khyag	Lein	Lein
Moon	La	Kha too	Lu	Len	Hpya hteet
Mother	Ama	Ya	Men	Amyá	Má
Mountain	Toung	Kha-lon-khyan	Koung	Pa-touk	Khan-ta
Mouth	Pazat	Khamoupan	Proung	Htsot	Pat
Moschito	Khyen	Khamceet	Takhra	You	You
Name	Amce	Yamoo	Meen	Tsoo	Htso
Night	Ngyu-ngyeeen	Khatan	Mó-ha	Ka khañ	Than-khen
Oil	Htsé	Kalihn	Nú-man	Na-man	Na-mau
Plantain	Hnet-pyau	Hpyat	Gná	Kwá	Kalway
River	Myeet	Pee	Nhrong	Nán-howk	May-na
Road	Lán	Khapann	Klay-tantha	Tán	Hon-tán
Salt	Htsá	Pó	Tá	Kó	Ká ló
Skin	Axá	Nan	Phro	Nann	Nann
Sky	Mó	Parwai	Mó	Hpa	A-kat
Snake	Mywa	Tha-roon	H'm	Ngoo	Ngoo
Star	Kyay	Noung	H'sa	Loung	Touk
Stone	Kyóuk	Kamau	Lung	Mahem	Hec
Sun	Ná	Ta-ngway	Mu	Kawon	Kawon

* Jeng?

Tiger	Kyá	Kala	Ka	Htso	Tsó
Tooth	Thwáu	Nget	Ta-gná	Khyó	Thóhn
Tree	Apen	Ka-noung	Thing-mu	Ton	Tón
Village	Yooa	Koh	Dung	Mann	Pann
Water	Yá	Dhilk	H'tee	Nan	Nan
Yam	Myouk-khoung	Ka-wa	Nwá	Ho-mau	Mau
I	Ngá	Awai	Khwá	Koung	Kha
Thou	Nen	Bai	Na	Moung	Ren
Ho	Tho	Nyá	Wa	Khoung-niek	Koung-nee
She, It	"	Pwá	Né	Koung-niht	"
We	Nga to	Beén tau	Ná-the	Htsóoh-niht	Kha-aen
Ye	Thoo to	Nyee tau	Wá-the	Man-niht	Aen
They	Nga ha	Kharoo-awáy	"	Khoung-kan	Loung-nee
Mine	Nen ha	Kharoo-hpá	"	Khoung-moung	Khon-kha
Thine	Thoo ha	Kharoo nyúng	"	Khoung-pen	Khoung-aeng
His	Nga-to ha	Kharoo-away tau	"	Khoung-houng	Khonkhá tsoung
Our's	Nen-to ha	Kharoo hpaytau	"	Khoung moung-pen	Khong tsoung-aen
Yours	Thoo to-ha	Kharoomyeen-tau	"	Khoung houng-pen	Khonkha-tsooung-
Their's	Tet	Mway	Ta	Nein	[aen
One	Hneet	Pa	Ne	Htsoung	Nein
Two	Thóu	Pe	Thung	Htsan	Tsoung
Three	Lá	Pón	Leet	Htse	Tsan
Four	Ngá	Pa-tson	Ngat	Ha	Tsee
Five	Khyouk	Karoung	Ther	Holt	Hnga
Six	Khwó-hneet	Khapau	Nwot	Tset	Holt
Seven	Sheet	Kha san	That	Tet	Tset
Eight	Kó	Kha-seé	Koot	Tet	Tet
Nine	Ta-htsay	Tsau	Tah-si	Kowt	Kowt
Ten	Hneet-htsay	Pa-sau	He	Tseit	Htseet
Twenty	Thon-htsay	Pe-tson	Thung	Htsoung	Ya-tseet
Thirty	Sá-htsay	Pon-tson	Leet	Htsan-Htsiet	Tsan-tseet
Forty	Nga-htsay	Patsoo-tson	Ngat	Hse Htsiet	Tsee-tseet
Fifty				Ha Htsiet	Ha-tseet

Comparative Vocabulary of Indo-Chinese borderers in Tenasserim.

English.	Burmese or Myam- ma.	Talien or Mon.	Toung-lhoo.	Shán.	Siamese.
A hundred	Ta-ra	Kaloon	Ta loyeu	Hpat	Yuay nén
Of	"	Mken	A	"	"
To	Go	Pway	En	"	"
From	Ga	Noo	A	Kohn	Tway
By	"	Nakeu	Tóme	"	"
With	Hnen	Ku	"	Han	Kha
Without	Ba	Hpa	"	Mai	"
In	A-hámha	Atway	Pu	Kanong	Khan-ná
On	Apau	Atoo	Long	Ka-nouk	Khan-mon
Now	Yáko	La mod	Ngá-khayen	Mayóhnlm	Pá-too-nee
Then	Hto akha	Akha	Moung ma	Chyain-hnigh	H pá la
When?	Bay-thaukha	A-khalarau	Teu ma	Chyain-lu	Hpalahighu
To-day	Thu khana	Tang waynau	Han-né	Ma-hnilit	Wan-nee
To-morrow	Net hpangha	Lee ya	Mu-reu	Ma-hpot	Hpooneí
Yesterday	Ma-na-ga	Let-ka-na	Má-ha	Ma-wa	Ma-wa-nee
Here	Thee mha	Kha-na-nau	Yo	Kanít	Hta nee
There	Ho-mha	Kha-na-ko	Ea-h'sí	Ka-po	Hai-nan
Where?	Bay-mha	Alorau	Eu-hmay	Kalau	Kalau
Above	A-hitet-mha	Atotá	En ké	Pamon	Tee-nan
Below	Ouk-mha	Kha ta ta	Enla	Palon	Khan la
Between	Alay-mha	Adho	Akha	Akhun	Khalan
Without, outside	Apyenmha	Ma-ngá	Ta-h'tanu	Ka-nouk	Khan-nouk
Within	A-hlaymha	Kha-tway	En-pu	Ka noung	Khan-noung
Far	Awa-mha	Noo-ma-way	Hya	An-kélu	Ka-rlm
Near	Ance-mha	Tsouk	Lau	An-san	Kará
Little	Ta-litset kalai	Soot	Pá	Acet	Net-ta-ró
Much	Apon	Hbau	A	Tama	Hton

How much	Bay-louk	Ma-tsee	Kheing hmay	Hta-noung	Htau riht
As	Kai-tho	N way tseik-nau	Nay-yó	Neik-youk	Nee
So	Thu-kai-tho	N young-tseik-kau	Nay-yó	Tso-neik-youk	Ram-nee
Thus	Thee atihn	Top-peun	Nay-yó	Tso-na-youk	Men-ran-nee
How?	Bay-nay	Tsou-la	Leu-may	Tso-hoo	Ran-rihn
Why	Ban-pyoolo	Moo-parau	H'twa may	Pen-htsau	Hta mihn
Yes	Hot-kai	Tot-kwai	Mwá	Htsouk-hée	Tsen
No	Mahot-bóo	Ha-tsen	Ta-mwá tew	Ma-tsouk	Mai-htsa
(Do) not	Ma-lot-boo	Hó-ka-lon	"	Ma-het-a	Mai-htan
And, also	Yuay	Young	La	"	"
Or	Thó-mahot	Hó-to-tseik-ko	Yo	Tso-neik-ma-tsouk	Mai-pen-yau
This	Thee-ha	Enan	Ta-hlon	Tso-niht	Née lai
That	Ho-ha	Tai-kau	Lisa-may-nay	Tso-nan	Nan-lai
Which?	Bay-thin	Be-la-rau	Lo-may nay	An-loung-lai	Nihn-louk
What	Ba-lai	Moo-gau-rau	Pá-may nay	Ka-tsan-lay	Ayo-loung
Who?	Bay-tho	N yay-gau-rau	"	Hpoung	Nihn-loung
Any thing	Tá-sontakhoo	Mway-theik-payai.	"	Pen-htsaytsó-tsó	Hpayla
Any body	Ta-tsontayouk	Kha-ra-tan-mwai-mwai	"	Pen-htsaytsó-tsó	Hpayla-righn
Eat	Tsa-thee	Tsee	Am	Kyen	Kenn
Drink	Thouk-thee	Thou	Nwa	Kyen	Kenn
Sleep	Aick-thee	Tet	Ping	Nonn	Nona
Wake	Nó-thee	Ngoo	Ting	Tén	Tén
Laugh	Yay-thee	Garihn	Nga	Kho	Ho-rau
Weep	Ngó-thee	Rán	Ngen	Hihk	Raung-hihn
Be silent	Tét-Tet naithée	Mon-ka-nouk-ka-nouk	Hnging	Yoo-hlseet-hlseet	Nenróo
Speak	Pyaulitso-thee	Han-kai	Ung-dau	Sat	Hoo-tsa
Come	La-thee	Ka-lon-ra	Lóne	Mha	Ma
Go	Thwáu-thee	Aara	Lway	Kwa	Pthk
Stand up	Mat-tal-nay-thee	Monlet Kha-tau	Ung-h'hung	Tsot-roo	Roa
Sit down	Hthih-thee	Kha-gyo	Ung-lan	Nan-yoo	Nan
Move, walk	Lay-thee	Kyay	Lay	Lay-yoo	Hta-ro
Run	Pyai-thwan-thee	Gareetaa	Law	Len-kwa	Wen pihn
Give	Pai-thee	Ka	Pha	Pan	Hihn

Comparative Vocabulary of Indo-Chinese borderers in Tenasserim.

English.	Burmese or Myam- ma,	Talien or Mon.	Toung-lhoo	Shán.	Siamese.
Take	Yoo-thee	Keet	Khone	An	Ouk
Strike	Yeik-thee	Tat	Tway	Pau-tihh	Pau tihh
Kill	That-thee	Tsa	Ma-thay	Out-tihh	Out-tihh
Bring	Yoa-khai-thee	Keet-nen	Htoo-tone	Oung-ma	Oung-man
Take away	Yoo-thiaw-thee	Keet-na	Htoo-lway	Oung-kwa	Oung-kot
Lift up, raise	Mhyouk-thee	Ka-toung	Hya or young	Hóh-khen	Houn-khan
Hear	Na-hyouk-thee	Kalan	Heung	Htan loo	Htawlon
Understand	Nalay-thee	Thit-ma-ra	Tia-na	Hoo-likh	Hoo-let
Tell, relate	Pyau-thee	Han-ma-rai	Thou-than	Lat	Lat
Good	Koung-thee	Khá	Heu	Lee yau	Lee-youk
Bad	Ma-koung	Hakhá	Kay	Ma-lee	Ma-lee
Cold	Chyann-thee	Bá	Khwá	Kat	Kann
Hot	Poo-thee	Kala	Kheu	Móik	Met
Raw	Tsen-thee	Tsen-isangeet	Ta-theet	Chyo	Chyo
Ripe	Mhai-thee	Tóo	Hma	A-hsot	Wen
Sweet	Chyáthee	Tat	Neu	Tron	Wann
Sour	Khyen-thee	H'pya	H'sya	Htsol	Htso
Bitter	Chátthee	Ka-tau	Khu	Khon	Khon
Handsome	Hla thee	Gau	Tá-rá	Han-leen	Han lan
Ugly	Ayot-hiso-thee	Hén	"	Han-tiehk	Hou likh
Straight	H'poung-thee	Touk	Tsone	Tsoo	Htsó
Crooked	Kouk thee	Ta-nouk	Ngá-ken	Kot	Kot
Black	Mai thee	Kalsan	Phren	Lan	Lau
White	H'pyoothee	H'pa-tihh	Bwá	Khoung	Khoung
Red	Nee-thee	H'pa-keet	Tá-nya	Len	Tai
Green	Tsein-thee	Hnen-ta-nyeet	Ling	Chyo	Khayo
Long	Shae thee	Kalcin	H'lo	Young	Young

Short	To-thee	Kalée	Deng	Tot	Tsánn
Tall	Myen-thee	Tha-lon	H'to	Tson	Thóhn
Short } man	Poothee	Kwa	Pú	Pauk	Tee
Small	Ngay thee	Dhot	Pá	Leikh	Let
Great	Kyoe thee	Tha-not	Tan	Youhk	Kalóhn
Round	Lón-thee	Kha-toung	Tung-lung	Món	Htsee
Square	Lai-Htounk nai thee	Pon-ka-lan	Seet-seng	Pyay	Htsee-len
Flat	Pya-thee	Kha-tai-thee	Sau-pyay	Pyee	Hpen
Fat	Wau-thee	Ka-ra	Pay	Pyee	Awen
Thin	Pen-thee	Tha rai	Hyeng	Raung	Hpóhn
Weariness	Anyoung	Ka-won	Tá-wa	Kon	Mai
Thirst	Yai-nat-khyer	Htan-tikh	H'ta-en-h'tee	Rat-nan	Rat-nan
Hunger	N gat-mot khyen	Ka-lo hpyo	Ha-khó	Ok-pyat	Aotrat

N. B.—English system of Spelling used in the above, which I have not ventured to alter.—B. H. H.

On the Mongolian Affinities of the Caucasians.—By B. H.

HODGSON, Esq.

All residents in the East who take an interest in the more general topics of Ethnology must have been exceedingly struck by Dr. Latham's recent imposing exhibition of the vast ethnic domain of the Mongolidæ. From Easter island to Archangel, from Tasmania and Madagascar to Kamskatka and the mouths of the Lena, all is Mongolian! Caucasus itself, the Arian Ararat, is Mongolian! India, the time-honoured Aryavartta, is Mongolian! Granting that this remarkable sketch* is in good part anticipatory with reference to demonstrative proofs, it is yet, I believe, one which the progress of research has already done, and is now doing much, and will do yet more, to substantiate as a whole; though I think the learned Author might have facilitated the acceptance of his splendid paradoxes, if, leaving the Oseti† and the Bráhmans in unquestioned possession of their Arian honours, he had contented himself with maintaining that the mass of Caucasian and Indian population is *nevertheless* of Turanian, not Arian, blood and breed; and if, instead of laying so much stress upon a special Turanian type (the Seriform), he had been more sensible that the technical diagnostics, which have been set upon the several subdivisions of the Mongolidæ, are hindrances, not helps, to a ready perception of the common characteristics of the whole race.

I do not propose on the present occasion to advert to what has been lately done in India demonstrative of the facts, that the great mass of the Indian population, whether now using the Tamulian or the Prakritic tongues, whether now following or not following the Hindu creed and customs, is essentially non-Arian as to origin and race, but that this mass has been acted upon and altered to an amazing extent by an Arian element, numerically small, yet of wonderful energy and of high antiquity. These are indubitable facts, the validity of which I am prepared with a large body of evidence to establish; and they are facts which, so far from being inconsistent

* Natural History of Man, London, 1850.

† It will be seen in the sequel, that in the course of those investigations which gave the "Comparative analysis" its present amplitude, I satisfied myself that the Oseti are Mongolian.

with each other, as Latham virtually assumes, are such that their joint operation during ages and up to this hour is alone capable of explaining those physical and lingual characteristics of the Indian population, which Dr. Latham's theory leaves not merely wholly unexplained, but wholly inexplicable. I must however postpone their discussion till I come to treat of the Newár and Khas tribes of Népál. In the meanwhile and with reference to Dr. Latham's crowning heresy that the most Caucasian of Caucasians (the Irôn or Oseti) are "more Chinese than Indo-European," I have a remarkable statement to submit in confirmation of his general, though not his special, position, my agreement with him being still general, not special.

His general position quoad Caucasus is, that the Caucasian races are Mongolidan; and, availing himself with unusual alertness of the results of local Indian research, he has, at pp. 123—128, given copious extracts from Brown's Indo-chinese vocabularies, as printed in our Journal; and he has then compared these vocables with others proper to the Caucasian races. My recent paper upon the close affinity of the Indo-chinese tongues with those of the Himálaya and of Tibet, will show how infinitely the so-called "Chinese" element of this comparison may be extended and confirmed; and my Sifanese series, now nearly ready, will yet further augment this element of the comparison, which in these its fuller dimensions certainly displays an extraordinary identity in many of the commonest and most needful words of the languages of Caucasus on the one hand, and of Tibet, Sifan, the Himálaya, Indo-china, and China on the other. There is no escaping, as I conceive, from the conclusion that the Caucasian region, as a whole, is decidedly Mongolian, what I have now to add in the shape of grammatical or structural correspondences affording so striking a confirmation of that heterodox belief, whilst Bopp's somewhat strained exposition of the Arian characteristics of the Irôn (as of the Malayo-Polynesian) provokes a doubt even as to them, despite the Edinburgh Review.* It is the

* No. 192, article Bopp's Comp. Grammar—a work that cannot be too highly rated, though its style of demonstration is not equally applicable beyond the Indo-Germanic pale. Its spirit may pass that pale, but not its letter, as when the Georgian sami is identified with the Sanscrit tri, Greek τρια and Latin tres. My

fashion of the age to stickle, somewhat overmuch perhaps, for structural or grammatical correspondences, as the only or best evidence of ethnic affinity. I am by no means insensible of the value of such evidence; and, though I may conceive it to be less important in reference to the extremely inartificial class of languages now in question than in reference to the Indo-European class, I proceed to submit with great pleasure a telling sample of structural identity between the Gyárúng tongue, which is spoken on the extreme East or Chinese frontier of Tibet, equidistant from Khokhonúr and Yúnán, and the Circassian language, which is spoken in the West of Caucasus.

The Gyárúng sample is the fruit of my own research into a group of tongues heretofore unknown, even by name: the Caucasian sample is derived from Rosen apud Latham, pp. 120—122.

Rosen, who was the first to penetrate the mysteries of Caucasian Glossology, states that the Circassian pronouns have two forms, a complete and separable one, and an incomplete and inseparable one. 2nd, that in their incomplete or contracted and concreted form, the pronouns blend themselves alike with the nouns and with the verbs. 3rd, that these pronouns, like the nouns, have no inflectional or other case signs, in other words, are immutable.† 4th, that the complete form of the pronouns is distinguished by the suffix Ra. Now, every one of these very arbitrary peculiarities belongs to the pronouns in the Gyárúng language, not less than in that of Circassia, as the following examples will show; and I should add that by how much the develop-

doubt respects the Oseti, not the Malayo-Polynesians, for I am satisfied that *they* are Mongolian, and would now add a striking and novel statement in support of that opinion, but that I must by so doing, go too far ahead of my yet unproduced Sifan vocabularies. The true and endless Mongolian equivalents for the Georgian numeral may be seen in the Appendix to this Essay.

† I have now ascertained that the same principles prevail, with slight variations, in the Hayn, Kuswar, Kiranti and Limbu languages of the Himálaya, in the Uraon, Ho, Sontal and Gondi tongues of Tamulian India, and in the Tagala and Malaya languages of the Pelasgian group, though passing out of use in the last named tongue as in several of the Himálayan tongues. See remarks in the Supplement. I may add that in the Hayn language (of which I have a detailed account nearly completed) the verbs are distinguished into the two classes of transitives and intransitives precisely as in Malaya.

ment of this part of speech is anomalous throughout the Tartar or Mongolian tongues, by so much is the instanced coincidence with the Circassian more significant, the anomalous or irregular character of the pronouns of both not sufficing to conceal the coincidence, and therefore doubly illustrating it.

Circassian.—Ab, father. Wara, thou, the full pronoun. Wa, the contracted form, used in composition.

Hence Wáb or Wa-ab, thy father.

Gyárúng.—Pé, father. Nanré, thou, the full pronoun. Na, the contracted form, used in composition.

Hence Napé or Na-pé, thy father.

VERBAL USE.

Circassian.—Wará, $\left\{ \begin{smallmatrix} \text{wa} \\ \text{ú} \end{smallmatrix} \right\}$ —kwisloit, thou ridest.

Gyárúng.—Nanré na—syo, thou knowest.

I have changed the Gyárúng verb, because I do not possess the equivalent in that tongue for to ride. It matters not, however, as the sample shows the grammatical form to be absolutely the same in both sentences, just as well as if ride were the verb used in both.

The other rules and examples (scanty I admit) given by Latham from Rosen may be matched in each instance by Gyárúng rule and sample, as will be seen in the sequel. But there is this difference in respect to the Ra suffix, that it is applied to the first and second pronouns in Circassian, though not to the third; and to the second only in Gyárúng.*

This however is in complete conformity with the other and typical Mongolian tongues; for in Mantchú, and in Mongol also, the Ra suffix is found, but attaching only to the *third* personal; and, if we compare the Téré of those tongues† with the Chinese Tá and the Sokpo Thá, we shall perceive the perfect analogy of the suffix throughout these tongues, in spite of its varying applications.

* The first and second pronouns are so nearly alike in Gyárúng (nga, na) that the ré suffix has probably been reserved to the second, in order to difference it more plainly.

† Recherches sur les langues Tartares, pp. 173, 183. I cannot thus revert to the thoughts of my old antagonist (voce Buddhism) without a fresh tear dropt on the untimely grave of that truly amiable and learned man.

But is there no clue to the irregularities, none to the real force and signification, of this pronominal suffix? Clearly there is; for, in the Tibetan language the word *rang*, meaning self, and attaching to all the personal pronouns alike,* affords us that clue, though the people of Circassia and the Gyárúg, whose common and familiar use of this suffix is so perfectly analogous, seem equally unaware of the fact, and can neither explain the meaning, nor the partial application, of their suffix, any more than can the Mantchús and Mongols. This I infer from the silence of authors and should add that the explanations are wholly my own, my Gyárúg interpreter being able only to express very unsophisticated surprise when asked to analyse a word.

But I have not yet done with the analogy of Circassian and Gyárúg pronouns, having still to notice that the third personal in Circassian, which drops the *Ra* suffix, is not really a personal but a demonstrative, equivalent to *ille*, *iste*. Now, the Gyárúg language has a third personal, which the Circassian lacks; but it has also a demonstrative, and that demonstrative is the very same as the Circassian one; that is, *ú* or *w*; and this pronoun has, in both tongues alike a separate, full, and a concrete contracted form. Moreover, in the Gyárúg tongue the forms and uses of this demonstrative afford a perfect elucidation both of its strange metamorphosis (W. to T.) and of its anomalous suffix (*i*), in Circassian; for ‘*watú*’ is the complete separate form in Gyárúg; whilst ‘*wa*,’ the contracted form, alone used in composition, constantly takes *í*, which is really a genitive sign and recognised as such in Tibetan but is a mere “*particule morte*” in Gyárúg as in Circassian. Take the following samples from Gyárúg: *Watú*, he, *iste*, *ille*: *Wapé*, his father: *Womo*,† his

* *Nga*, I, *Ngarang*, I myself, *Egomet*; and so *Khérang*, *Khórang*. *Remusat* has sadly confused the Tibetan pronouns, and, as I suspect, those of the other “*langues tartares*,” though his work be a marvel for the time and circumstances of its publication. *Remusat ut supra*, p. 365.

† The change of *wa* into *wo*, in *wapé* and *womo*, is an instance of that vocalic harmony which these languages so much affect, and which has been erroneously supposed to be peculiar to Turki. We have abundant alliteration both vocalic and consonantal out of, or beyond the Turki branch of, the Mongolian tongues.

Shaimek, from *Shi* and *Mek*, has other peculiarities precisely similar to what occur in the Altaic tongues, teste *Remusat*.

mother: Wainyek, wa-i-myek, his eye (myek, eye): Shaimék, shai-i-mek, leaf of tree (shi, tree, mek, leaf;) and then turn to the Circassian samples in Latham, ú-í, he; t-ab, his father;* í-kwisloit, he rides, and you will perceive that (ú being the same with w) the nominal t and the verbal í of Circassian are the secondary or suffix portions of the full Gyárúng pronoun exalted into primaries in order to difference the third person from the second, the second already having the wa or ú (wab, thy father; ú-kwisloit, thou ridest) form. And that such substitution of the secondary for the primary part of a word is no arbitrary assumption of mine, but a regular principle of the Caucasian and of the Mongolian tongues, may be seen by the numerous examples of it occurring in the subjoined list of vocables. The above elucidations of Circassian pronouns for which I am entirely answerable, are so thoroughly in the spirit of Bopp's system that I trust they may find favour in his eyes, though I have ventured to demur to his Arianising of the Tartars by too strained applications of that system.

I know not if Rosen at all explains the peculiarities of the pronouns in Circassian, but Latham does not; and it will therefore be felt as a truly interesting circumstance that the explanation just given, like that of the Ra suffix, have been fetched from Lhása and Litháng! The cultivated tongue of Tibet proper continues, it will be seen, to afford the clue to the labyrinth; and that it does so, is surely a strong presumptive proof, as well of its superior antiquity as of its superior completeness. So judging, I cannot moreover doubt that the Circassian preterite sign is the same with the Tibetan preterite sign (Chen-Tshar), though this be beside the mark of pronominal expositions,—and to these I must confine myself, or I shall not know where to stop, so constantly do these Tartarian illustrations of the Caucasian tongue flow in upon me. I am unaware

* In the supplement to this paper will be found an exact and beautiful pendant for this Circassian sample, derived from the Tamulian tongues, the Sontal language having ú and í for the 3rd personal and these commutable, in composition, into the conjunct form of tá, precisely as in the Circassian tongue. From the Gondi tongue is there given another example of the commutation of ú to t, so that my exposition from the Gyárúng instance is placed beyond doubt, whilst some fresh and beautiful links are added to the chain of affinities, as to which see prior note.

whether the Circassian language is distinguished, like the Gyárúng, by a very ample employment of those prefixes which, as more or less employed, characterise so many of the Mongolian tongues, and which are dropt in composition, like the Ra suffix. Thus, *tarti*, a cap, in Gyárúng, is compounded of *ti* the root, and *tar** the prefix : but, if we join a noun or pronoun to this word, the prefix disappears, and “his cap,” for example, is *wárti*, compounded of the *wá* above-mentioned and the radical *ti*. In like manner *taimek*, a leaf, when compounded with *shí*, a tree, drops the *tá* prefix and becomes *Shaineke*, as *tápé*, father, becomes *Ngapé*, my father.† Rosen, should this paper fall under his eye, or Latham perhaps, whose quick eye will not fail to catch it, will be able to tell whether the same peculiarity distinguishes the Circassian tongue. For myself I doubt not it will so prove, because the rule for nouns is but another phase of the rule for pronouns.

In the meantime, the striking grammatical analogies‡ I have pointed out stand in no need of further elucidation, and these analo-

* *Ta*, the common form, becomes *Tar*, differentially as *Timi*, fire ; *Tirmi*, man, Root *Mi*, used in both senses. In *Tirmi*, *Tarti*, *Warti*, we have the *ra* particle which remains in its conjunct form as a medial, whilst the usual prefix *ta* disappears. The *rá* too would disappear in a compound of roots if not needed to differentials and mark the special sense of such roots, or one of them, or if the root commenced with other than a labial consonant, its prefix being servile.

† It has been queried whether the polysynthetic words of the American tongues, quoad their principle of construction, as to which there is so much doubt, be not compiled from *radical* particles only. Judging by the method of forming ordinary compounds in Gyárúng and its allies, I should say, Yes, certainly they are to a great extent, though not exclusively, for the cumulative principle ill brooks control, revelling in reiterations and transpositions of root alike, and of its servile adjuncts though clearly, as to simple compounds, constantly observing the rules of contraction and of substitution noted in the text. In the Gyárúng sentence *Tizékazé papún*, he summoned them to feast, the word for to feast shows the root repeated twice, and each time with a separate servile, though we have here only one verb, not two verbs, and in *Kalarlar*, round, still no compound, we have the root repeated, but yet with a servile, though only one, being the prefix *ka*. In such cases that servile is usually omitted as *kaka*, sky ; *pyepye*, bird ; *chacha*, hot.

‡ Those analogies might now be largely extended did health and time permit. Take the following instances : *Tam-bas*, father ; *imbas*, my father, in *Uraon*. *Sampa*, father ; *ampa*, my father, in *Kiranti*. *Ku-kos*, child ; *ing-kos*, my child, *Uraon*. *Tam*, *sam*, *ku*, serviles, replaced by the pronouns, compare *Maylayan sam-piyan*, *san-diri*, *kan-diri*, *ka-manus*, *k'anak*, &c.

gies, together with the explanation from the Tibetan of the widely-used but heretofore unexplained Ra suffix, constitute in themselves, and as sustaining all those numerous identities of the primitive vocables which have been adverted to, something very like a demonstration of the Mongolidan affinities of the Caucasians, though I would be understood to speak with a due sense of the disqualifications inseparable from my secluded position and want of access to books. I subjoin Latham's sample of the construction of the Circassian language, with its equivalent in Gyárúng.

‘I give to my father the horse.’

<i>Circassian</i> —Sara	s-ab	acé	istap
I	my father	horse	give
<i>Gyárúng</i> —Ngaré*	nga-pé	boroh	dovong
I	my father	horse	give

‘In the house are two doors’ is, in like manner, ‘house two doors’ in the Circassian and Gyárúng tongues.

The plural sign, kwé in Circassian, myé or kamyét† in Gyárúng, is in both languages alike “the beginning and end of declension.”

The following list of Circassian and Gyárúng pronouns may facilitate the reader's apprehension.

	<i>I</i>	<i>Thou</i>	<i>He</i>
Circassian pronouns—Sa-ra.		Wa-ra	U-í.
Gyárúng pronouns—Ngá.		Nan-ré.	Wa-tu.

The same conjoined with a noun.

Circassian.‡—S-ab	W-ab.	T-ab.	} My, Thy, His, father.
Gyárúng.—Nga-pé.	Na-pé.	Wa-pé.	

* Ra suffix subjoined for illustration though not in use with *this* person. See prior note.

† Ka is the prefix, appended as usual. I have already remarked that the Gyárúng tongue is distinguished among its allies by its extensive employment of this class of particles. The Burmese tongue makes less use of them, and in its myá, much many, we have the Gyárúng plural sign, myé, vel Ka-myé. The Suanic Maré and Georgian K'mari for man, afford a precise Caucasian equivalent quoad the servile ka, showing it to be dropt or retained according to circumstances or to dialects in Caucasus.

‡ Ab, father—Pé, father, less the prefix.

Comparison and Analysis of Caucasian and Mongolian words.

<i>Man.</i> —K'mari in Georgian. Maré in Suanic.	{ K, prefix, servile, as in Indo-Chinese K'luu, a man, and Malayan K'anak, a child: a sort of article and equivalent to the suffixed K.
Maro in Lepcha. Muru in Sunwar. M'ru in Mru. Mano in Newari. Mausi in Bodo. Múa-máre Nomen gentis.	{ Má, with the customary change of vowel (see on to Mo-i and Mi) is the root throughout, and it takes the common ra suffix, likewise with the usual vocalic diversity. But observe that in M'ru this servile absorbs the vowel of the root, as in M'se, Georgian for Mé-se, voce fire.
<i>Man.</i> —Lé-g in Osetic.	{ This is the first of numerous samples in which the name of the species is that of a tribe..
Lé-ng in Burmese.	Means husband.
Len-ja in Magar. Lú in Burmese.	{ Means male, especially human, lén, the root, having the sense of mankind, or both sexes.
Ló-k in Tai.	{ K suffix, servile articular like the g in Lé-g and Ló-g.
Ló-g-nya in Khas.	Nya, a synonyme.
K'lú-n in K'lún.	{ Compare K'amari and K'anak. Lú root. Nomen gentis necnon hominis.
<i>Boy.</i> —Lap-pu in Osetic.	{ Pú suffix, a diminutive. Lé, Lá, Ló, the root, as in man.
Lok-pa in Tai.	Pa, diminutive, = pu. Ló, root.
Lúk-wan in Tai.	{ Lú root with articular, K suffixed. Wan, doubtful. Compare Wak, in Armenian Sá-wak a child; Sa in Burmese having the root only.
Young person of either sex } Bitshi in Georgian. } Bi-shi in Lazic.	{ Shi, euphonised sha, = sa and cha and za, in the following words: Or it may be Bi, Bo, Bu, junior, and Shi, human.
Bo-shi in Mingrelian.	Means daughter.
Bo-zo in Lazic.	{ Zo = Za = sa and cha, the common diminutive, euphousized to vowel of root.

Bisha, Bishi in Bodo.	Male and female respectively.
Bu-cha in Takpa.	{ The diminutive cha is seen in the conjunct form in Osetic Sa-ch voce Earth.
Pu-sa in Maplu. Po-ze in Pasuko.	{ Zo servile, as in Lazic Bo-zo. Z = S, alike in Caucasian and Mongolian series.
<i>Man.</i> —Moi in Osetic.	{ I servile. Mó, = Má supra et Mí infra, is the root.
Moi in Kong.	Means sister.
Pú-moi in Ple.	{ Means woman, pú being a feminine sign. Moi therefore is man.
Moi-tai. Mo-n.	{ Nomina gentium. See note at end of Supplement.
Mo-cha in Newari.	{ Means child, cha being a diminu- tive, = sa, supra.
Múi-bú in Takpa.	{ Múi is the root. For change of vowel therein see note voce Dog.
Mú-rú in Sunwar.	{ Rú, the ra suffix, with its vowel harmonised to that of root.
<i>Man.</i> —Tsé-s in Georgian.	{ Means boy, owing to the sa suffix. Tsé therefore is man.
Tsé in Chinese.	
<i>Man.</i> —Zo-zi in Osetic. Ka-zi in Georgian. V-zi in Horpa. D-zi in Chinese.	{ Zi, = si and Shi, is the root. The latter appears in Bit-shi, Tsé, &c. It is a very widely spread man root, signifying adults as well as juniors.
<i>Woman.</i> —U's in Osetic. U's-res in Gyárúng.	{ The root is U meaning man. The conjunct S is the feminizing suf- fix. U-er-ti, U-shi, &c. have the same root. Rés is the ra suffix, with the sa particle re- peated.
<i>Woman.</i> —Swa-n in Osetic. Swa-s-ni in Khas.	
<i>Brother</i> or <i>Sister.</i> {	{ Dá in Georgian. Dá in Sontal.
Dá in Kuswár.	Means girl.
Da-s, Dá in Uraon.	Mean boy and girl.
A-da in Bodo.	
Dá-ni in Dhimali.	Means virgin.
D'si in Chinese.	

Ego = *Homo*.—Mi in Suanic.

Mé in Georgian.

Má in Mingrelian.

Má in Ossetic.

{ Mean I, the pronoun. No fact is better established in Glossology, than the frequent equivalency of the roots for man and I; and it is of much importance to note them here.

Mi in Tibetan.

Mi in Lhopa.

Mi in Murmi.

Mi in Moitai.

Mhi in Gurung.

Bhar-mi in Magar.

Bar-ma, nomen gentis.

Tir-mi in Gyarung.

Mi-va in Garo.

Yap-mi in Limbu.

Mih-pa in Kuki.

{ This, and all the following mean man. It is remarkable how far the pronominal sense of Mi prevails in Caucasus, and the nominal, in the regions east of it. But they run into each other, and the root very generally is further employed to designate tribes from Caucasus to Indo-China, as Mi-shi-mi from the Mi and Shi roots, Mú-r-mi, from the Mu and Mi roots, &c. &c.

Ka-mi in Kami.

Kú-mi in Kúmi.

Pú-mi in Plé.

{ Tribe names derived from name of species—a very extensively diffused principle. The etymology of Burma, or the Burmese is thus recovered. See Supplement.

Mi-jang in Newar.

Mi-sa in Newar.

{ Mi, the species: Jang and sa sexual adjuncts. Jang = mas. Sa = fæ.

Mi-ya in Newar.

Miya-lau in Roinga.

{ Means girl. Ya, differential servile with reference to the various senses of the Mi root.*

Mim-ma in Burmese.

{ Means woman. Root Mi. Ma is a feminine and maternal sign.

Sa-mí in Burmese.

Means girl. See note in sequel.

S'mé in Horpa.

Se-mé in Kolun.

{ S'mé means girl, like Sa-mi and Sé-me. The Sa particle in various phases, added to Mi root.

Mé-ying in Lan.

I.—Sa in Circassian.

Sa-ya in Malay.

Ya, a differential servile.

Sa in Tagalan.

{ An article. See Crawford's work for proof how these so called articles blend with the pronouns.

* The basis of all these tongues from Caucasus to Oceanica is a small number of monosyllabic roots bearing necessarily many senses. Hence to distinguish between those several senses is the chief function of the servile adjuncts of the roots. In this language, for example, the root wá means, come, tooth, rice, rain, throw, and he.

Sa in Malay.

{ Means one. Smidt wittily remarks on the perpetual coincidence of the first personal pronoun, and the first numeral, which is also constantly equivalent to the indefinite article, where wanting.

Sú-m in Vagu.

{ In composition only, as Ha-sum, give to me.

I.—Má in Osetic.

Má in Mingrelian.

Má in Lazic.

Mi in Suanic.

Ma in Tinnic.

Mo-n in Sap.

{ Compare Mo-i, man, in Osetic and Món the Indo-Chinese tribe name.

Mi in Mongol.

Mi in Mantchu.

{ Deduced from the derivatives Mini and Mi-ning-ge. So Mi in the sense of man is deduced from Mim-ma and Sa-mi in Burmese.

I.—Jé-s in Armenian.

Ji in Newari.

v Ja in Horpa.

{ See remarks, voce Dog, on the vocalic changes to which all roots nearly are subject.

I.—Á-z, A-s in Osetic.

An-ka in Kiranti.

A-ku, Á in Malay.

Á in Manyak.

Ká in Dhimali.

{ Á is the root throughout Za, Sa, Ka, Ku, being serviles, though some of them, as Ka, frequently take the place of the root.

Thou.—She-n in Georgian.

Si in Mingrelian.

Si in Suanic.

T'shi in Mongol.

Se-n in Turki.

Sa-n in Onigur.

Sa in Finnic.

Chhá in Newari.

Chá in Sokpa.

Sú in Tai.

{ Sí, Shí; Sé, Shé; Sá, shá, Sú, are the several phases of the root, or cycle of customary variation, just as in the nouns. See remarks on 'Kha' voce Dog.

The plural, Ye.

He.—Ná in Armenian.

Ná in Chinese.

Ná in Malay.

Ni in Khyeng.

No in Anam.

Ha-ná-i

h'ná-i

} in Kami.

Ha prefix and I' suffix, servile.

He.—U-i in Circassian.

U-i in Sontal.

O'é in Magyar.

U in Circassian.

U in Garo.

O' in Onigur and Turki.

Wo in Newari and Gondí.

Wa in Gurung, in Dhimali and in Tunglhu.

He.—I in Circassian.

I in Mantchu.

I in Burmese.

I in Dhekra.

I in Malay and Tagala.

Deduced from i-ti, i-tu, &c.

He.—Ta in Circassian.

Ta in Sontal.

Ta in Gondí.

Té in Mongol.

Té in Mantchu.

Té-ún in Dhekra.

Tá in Esthonian.

Thá in Gyami.

Thi in Gurung.

Thé in Murmi.

In composition as conjunct prefix or suffix or as disjunct. E. g. T-ab, his father. Apa-t, his father. Handa-ta-r, he went. See Rosen, Phillips and Driberg. With regard to the transposed pronoun, See note voce Fire. The law of transposition is so important that I add the following samples to show that even where the actual practice has ceased, analogy supports its quondam use.

Suffix possessive. | *Prefix possessive.*

Baba-ku, Malay. | Ang-upa, Vayu.

Aba-im, Kus- | Im-bas, Uraon.

war. | Nga-pe, Gya-

Apa-ing, Sontal. | rung.

= my father.

Thú in Burmese.

Tá-i in Dhekra.

In i-thu, ithi.

Means she.

He.—I-s in Georgian.

I-ti-na in Mingrelian.

I-té in Dhekra.

I-sé }
I-se-ná } in Magar.

} See remarks in supplement.

I-ti in Malay.

Sé-i-ti in Koch.

Sé-i in Dhekra.

I-ta in Khas.

Si-ni, Si-tu in Malay.

Si-ya in Malay.

{ Mean this, this very one, this one here.

Iste qui.

Means, here.

Means, here and there.*

Ille qui.

<i>Sky</i> .—Khá-k in Absné. Ká in Lazic. Ká-ka in Akush. Khá Khau in Kami.	{ Khá is the aspirate, and Ka-ka the reduplicate state of the root. K final is an articular servile, as in Talak, Bik, &c. &c.
Khó-rang in Bodo. Nam-khá in Tibetan. Nam-khan in Magar.	{ For Nam compare Nam-sin. It is frequently omitted. Khá is <i>the</i> place, metaphorically sky or heaven. Rang is an emphatic servile, for which see supplement to this paper.
<i>Sky</i> .—Ta-la-k in Tshettshentsh.	{ La, root. Ta, the common prefix, and K, the articular suffix.
Ta-li in Georgian. A-li in Georgian.	{ Doubtful, and can mean sky only metaphorically.
Ta-la-k in Ostiac.	Means sun.
Ta-li-ang in Lepcha.	{ Ta, as before. Ang, a form of the na suffix. Compare Pett-ang.
Ta-li in Gyarung.	Means air.
Le in Burmese. A-li in Kumi.	{ The nude root whereof the phases are lá, lé, li.
K'li in Khyeng. Ga-li in Kami. La-k in Sak. Li in Rukheng.	{ Valuable illustrations of the system of serviles, the root being palpable. Its general sense is air, sky, by metaphor. For K' prefix of Kli, see K'mari.
<i>Fire</i> .—Mizh in Suanic = Mi- [zhi]. Msé in Georgian = Mé-sé. Mzá in Absne = Ma-za.	{ Zhí, Só, Zá, are three conjunct suffix forms of the Sá particle which is seen in Manyak in its separate unaltered form as a prefix. Here it is altered, 1st, by dropping its own harmonised vowel (see Zhi, infra), 2nd, by absorbing the vowel of the root. Din, Den, for Di-ni, day, and Smé for Sémé girl, are parallel instances of change as of transposition are Mi-sa and Sa-mi,† voce man. See note below? and that on the Ma particle, voce 'Day.'

* It is because the 3rd personal is so perpetually identical with the demonstratives, of which the direct and exclusive principle is contrast, that the same elements come to express the contrasts of place and time and manner (here there; now then; as, so.) He who would trace the remoter affinities of race, must treat languages in this thoughtful manner.

† NOTE. The Mi-sa, Sa-mi, sample of transposition of the Sa particle, cited above to match the Me-se, Georgian, Sa-me, Manyak, sample here compared with it, is

Zhi in Kuanchua.

Zi in Dido.

Za in Chunsag.

These are introduced to show the servile particle of Mizh, Mza, and to show it superseding the root, as in Fa for Ma, here, and in Ba for Sa, voce 'Cow,' and in Di for Bi, voce 'Skin.'

Má-fa in Circassian.

Fa servile. We shall presently see it usurping the place of the root.

Mé in Tibetan.

Mé in Limbu.

Mé in Serpa.

Mé in Murmi.

Mé in Kolun.

Mhé in Magor.

Mi in Lepcha.

Mi in Kiranti.

Mi in Newari.

Mi in Gurung.

Mi in Sunwar.

Mi in Burmese.

Mi in Khyeng.

Mi in Moitai.

Mi-ung in Maplu.

Ma-i in Kami.

Mha-i in Kumi.

These abundant instances from the Mongolian series plainly prove the root in the Caucasian series, and they show that root precisely such in every phase (mi, mé, má,) as it is seen in the Caucasian series. We thus securely proceed to the serviles or rather servile, and this the Manyak word, below, gives in the primitive state, unaltered by blending or by euphony. We are therefore certified as to its various altered forms (zhi, zá, sé), in the Caucasian series. Observe also in the Mongolian series that all the tongues which use the Mi root in the sense of man have Mé instead of Mi for fire.

Fá-i in Khamti.

Fá-i in Tai.

Fo in Kong.

Turn to Ma-fá, supra, and note again how the servile supersedes the root, as in Zi for Mi, fire. So also Tibetan Ba for Circassian bsa, voce cow, and Anamese Di for Dido Bi, voce skin; the last so decisively proved by the Murmi form of the word wherein root and servile both appear, Di-bi. Thus the Circassian word Ma-fa supplements and expounds the Tai and Khamti word Fa-i; and this the Manyak word Sa-

from my Tibeto-Himalayan vocabularies; thus in full, Mi-sa, woman, in Newari, Sa-mi, girl, in Burmese and Khyeng, and Sme, in Horpa, root Mi, Me, mankind, and Sa, a feminine and diminutive sign. In short the Sa particle, like all others, may be prefix or suffix, and separate or blended. Hence Mse, Georgian = Sa-me, Manyak. With regard to the suffixed Zhi, Zi, or Za, clearly = Sa, it would seem as if Mi were the Sun or great fire, of which Mi-sa is the diminutive, just as Sá is the earth, or terrestrial globe, and Sa-ch (cha = sa) earth, soil. See 'earth' in sequel.

meh supplements and expounds the Georgian word Msé and its Suanic and Absne equivalents. The languages must have a deep and radical affinity which can thus be made mutually to illustrate each other.

Mé-n in Dhimali.
Meh in Takpa.
Meh in Thochu.

} Return to the simple root again.

Sa-meh in Manyak.
Sa-mi in Sak.

} Here we have the Sa particle above cited in its pure unaltered state. The Georgian Msé shows it transposed and blended.

E'-mé in Abor.
Ti-mi in Gyarung.
U-ma in Horpa.
Um-ma in Aka.

} Timi recurs to the Mi form of the root, with the inseparable Gyarung prefix (ta) harmonised in its vowel, U servile, like é, in é-mé. These last words of the fire series afford excellent illustration of the wide scope of servile adjuncts.

Day.—Di-ni in Tshetshentsh.

} Di is the da prefix harmonised in its vowel to that of the root Ni.

D-én, Dé-n in Ingush.

} Den shows the above prefix conjunct, and the ni root altered to né, become én per metastasin. Or, if we read Dé-n, then the particle takes the harmonised vowel of the root which is absorbed, as in Din for Di-ni, below.

Ki-ni in Kasi Kamak.

} Has the ka prefix harmonised in its vowel to ni root.

Ki-na in Makash.

} Means to-day. Ki, as above. Na, a new phases of the root, as Ma for Mi, fire.

Di-ni in Magar.
Di-ni in Gurung.
Di-ni in Bodo.

} Tally exactly, root and servile, with the Tshetshentsh word and similarly analysed of course.

D-in in Khas.

Tallies with the Den instance.

Ka-ni in Kumi.

Means day and sun.

Ka-nhi in Khyeng.
Ko-ni in Kolun.
g Na in Horpa.

} Means sun. The roots for sun and day run into each other to a great extent. Nhi, vel Ni, vel Ná, is the root.

Si-ni in Singpho.	{ Si servile, is the sa particle with harmonised vowel.
Nam-sin in Sunwar.	{ Compare Nam-kha, voce sky. Sin for si-ni is like Din for Dini, ni being the root.
Sak-ni in Lepcha.	{ Sak, like Nam, is a servile or particule mort;* not however so utterly dead, that its radical sense of 'sun' cannot be recovered.
Nhi in Newari.	{ Shows the root again, free of all adjuncts, but varied by an aspirate as Khá for Ká, voce sky, Mhé for Mé, voce Fire.
Né in Burmese.	
Ni in Mru.	
Ni-n in Koreng.	
ta Ni-n in Mru.	{ Means 'sun.' Day, sun and sky run into each other perpetually.
Ná in Sunwar.	
Na-m in Limbu.	{ Compare Nam-kha voce sky : mean sun or parent (ma) of day (na) : Or, 'm' being servile, Na = Ni, will be sun vel day.
Na-m in Kiranti.	
Ni-mo in Serpa.	Means day and sun.
Ni-bha in Newari.	Means sun.
Nhi-ga in Newari.	{ Mean respectively to-morrow and yesterday, evening, then, and to-day, and are most valuable exponents of the function of the particles as well as of the flexibility of the roots Nhi, Nhé, Ni being as surely phases of one root as Mhe, Mé, Ma, Mi are ; voce Fire.
Ka-nhé in Newari.	
Ba-ha-ni in Newari.	
Ha-ni in Newari.	
Tha-ni in Newari.	
Má-né-k in Burmese.	{ Means morning, from the roots Ma, mother and Né, day with the articular K suffix, as in Kha-k, sky. The Chinese in like manner name, the day, the sun's son. Or, the prefix ma may be a servile as in the next word.

* Observe therefore that what is said of the universal vitality of all the particles of these tongues, voce dog, is only true in the comprehensive view of the languages.

Ma-ní in Kami.	{	The meaning here being simply day from the Ní root ma must be a servile, no more affecting the sense of the root than the ka, da, and sa prefixes in Dini, Kani and Sini.
Nyima in Tibetan.		Here the ma particle becomes a suffix, and, as before, without touching the sense of the root.
Nyi-m in Lepcha.	{	Ma suffix conjunct = ma in the preceding word. Seems conjunct in Tsari chim, voce water.
Na-ni in Dhimali.		Means then. Na, servile.
Nyi-ti-ma* in Dhimali.	{	Ti, and Ma, both servile differential. For ma suffix, see Chi-m, voce water, Si-ma, voce tree, &c. For ti suffix, see Purti, voce bird, Bi-t, voce cow, &c.
Snyi in Gyarung.		Sa prefix, conjunct.
Pish-nyi in Gyarung.	{	Mean respectively to-day and yesterday.
Sos-nyi in Gyarung.		
<i>Night.</i> —Ak-sá in Osetic.	{	Ak servile as in Akra, voce horn. Sa root = Sha, Tibetan.
K'shé-r in Armenian.		K prefix = Ak, and the final r, the common ra particle, conjunct.
Séri in Mingrelian.	{	Ri suffix, servile, = r in Ksher. See supplement.
T'shá-n in Tibetan.		Initial t' and final n serviles.
Ché-n spoken Tibetan.		Final n servile.
Kú-sén } Sén-dik }	{	Kú prefix and Dik suffix serviles. Sé root.
Sén-li in Takpa.	{	Li servile, as in Ché-li, Georgian, voce hand, and Kué-li, Surawar, voce hand.

* Mani compared with Nyima and Nyitima afford further illustrations of the rule of transposition already illustrated from the Msé and Sameh instance, voce fire, as well as from the Misa and Sami sample, voce man. In fact no law of these languages can be more certain than this of transposition, passing frequently into substitution (of servile for root), of which also we have seen various instances. The rationale is that every element is, in general, equally available in a primary or secondary sense, though there will of course be exceptions if the view be narrowed to one or two of the tongues, and more especially if these be regarded merely in statu quo.

Chá-i in Chinese.	{ Tally exactly with the spoken Tibetan.
Cha-i in Buret.	{
<i>Summer</i> .—Ach-ké in Mizjeji.	{ Ach = cha, per metastasin. Ké servile.
Chá-ko in Tushi.	{ Kó servile, like ké and ká. For vocalic changes, see “dog.”
Cha-r-ka } in Tibetan.	{ Means spring. Medial r and d serviles, for which see the supplement of this paper.
Chi-d-ka }	{
Chi-a in Chinese.	Final a, servile.
Chá-ko in Dhimali.	{ Cha is hot and Sá, summer.* Yet the adjective and substantive are really, but one word.
Sá-ko in Dhimali.	{
Chá-n-gu-la in Newari.	{ “The hot months.” Lá means month and gu is a servile = ka, ko, supra.
<i>Sun</i> .—b Shá in Mingrelian.	
Shá in Tushi.	
Ta-chán in Tushi.	{ Means day. Final n, servile as in the following words.
Sha-n in Bodo.	{ N. servile, as in the prior word and
Sa-n in Garo.	{ subsequent one.
Sá-ne in Dhimali.	Means sunshine.
Sá-cha-k in Lepeha.	{ Sá-chá, sing, song, repetition of the root. K, articular servile.
<i>Moon</i> .—Twai in Suanic }	{ Compare Tagalan, Ta-vo and Bugis, Tau, meaning man, for proof of the wide prevalence of disjunct and conjunct styles. Final i, servile.
= Tá-va-i. }	{
Twé in Georgian.	
m Twá-ré in Georgian.	Ré servile, the common ra suffix.
Twó in Newari.	Epithet from colour, white.
Dá-va in Tibetan.	
Dá-u in Lhopa.	
Tá in Tai.	
Tá-li in Dhimali.	Li servile, as in Cheli, Sen-li supra.
<i>Earth</i> .—T’shé-do in Dido.	{ Initial t’, servile, and do suffix. For the suffix see remarks in supplement.
	{

* Compare Malay Cha-bi and Ende Sa, meaning pepper. Sense, sound and system seem to tally with ours, the added or omitted servile and the change of root!!

T'shi in Georgian.	{	Initial t', the common ta particle : git, doubtful.
T'shí-git in Osetic.		
T'shi-git in Dugioian.		
T'sé in Georgian.		
Sá-ch in Osetic.	{	Ch suffix, a phase of the diminutive particle cha, sa. Sa, the root, is <i>the</i> earth. Sach, earth, soil a little of.
Sé-ch in Osetic.		
Mit-za in Georgian.	{	Mi-t, double servile, modified like git.
Mi-sá in Andi.	{	Mi and Mu are indubitable serviles, Sá being the root. They serve excellently to show how these particles attach to the roots. The Mi prefix is very common in the Magar tongue, as Mi-rong, Misya-ros, &c.
Mu-sá in Akush.		
Di-chá in Mingrelian.	{	Chá, the root, tallies exactly with Newari. Di, is the common, da prefix.
K'shá in Horpa.	{	K' is the ka particle conjunct, as in K'mari, K'li, K'anak, &c. &c.
Ha-sá in Sontal.		Ha, servile, or a synonymous root.
Séh in Gyarung.	{	These numerous samples from the Mongolian tongues plainly demonstrate the root of the Caucasian words as before remarked in reference to the fire series.
Sá in Tibetan.		
Sá in Lhopa.		
Sáh in Takpa.		
Chá in Newari.		
Kat-ché in Karien.	{	Compare Kat-shú, voce hand, and observe that the form is identical in the Caucasian and Mongolian sample (Andi and Plé). We have here the very same compound servile (ka-ta), similarly employed (prefix). Such perfect coincidence of all the elements of speech could result only from identity of origin and family unity.
<i>Salt.</i> —T'shé-a in Kubitsh.	{	The word is radically the same as that for earth, as proved by the Osetic and Wogal terms. The prefix also is the same, and hence a suffix is required to difference the senses. It is thus we learn the real function of the serviles. Sec note, voce Ego = homo.

Za-ch in Osetic.	}	See earth.
Se-ch in Wogal.		
D'zé in Akush.		
Zi-o in Dido.		
Dé-sé in Dhimali.	{	Comparing this word with the Akush D'sé we see the equivalency of the conjunct and disjunct serviles.
Dé in Kolun.		
T'si in Khyeng.		
T'sá in Takpa.		
T'sha in Tibetan.	{	Wi = water ? sha = salt. The salt procured from water. Else wi = bi, the common servile.
Shá in Burmese		
Wi-shá in Mru.		
Chá-chá in Gyarung.		
Chhá in Lhopa.	{	Root repeated as in Ká-ká, voce sky.
Chhá in Serpa.		
Chi in Newari.		
Chhé in Manyak.		
Chhá in Horpa.	{	This aspirate Ch is equivalent to the Tibetan and Kabitsh Tsh.
Chhé in Gyarung.		
Sú-ng in Sak.		
Syú-ng in Bodo.		
Dab-sú-n in Mantchu.	{	Final nasal servile. Intercalate y, very common as Ni, Nyi, voce day. Khi Khyi voce dog.
Da-ba-sú in Mongol.		
<i>river.</i> —O'r in Osetic.	{	We cannot doubt that Sú is here the root. Da-ba therefore are servile prefixes, though the existence of such has been denied to these tongues.
Hor in Avar.		
Or-(kyuré) in Akush.		
Wá-ran in Osetic.	{	O', U, the root : r, servile. The same aspirated. For Kyúré, see on to 'Rain.'
sg-Wá in Georgian.		
O' in Sak.		
O'ng in Lepcha.		
U-(sú) in Sokpa.	{	Means rain. Wá root. Ran servile. See supplement.
Wá in Newari.	{	Means a lake. Wá, the root.
Ha-wá		
K'wá		
in Kami.		
Aú in Mru.	{	O' is the nude root. O'ng, the same with the common nasal addition.
Wá-i in Dhimali.		
	{	U, another phase of the water root. For sú see on.
	{	Same as U. Means water.
	{	Prefixes H and K, servile.
	{	Unites the O' and U roots.
	{	Means rain.

Hra in Horpa.	{ Hra = Ho-ra, Ho-r, with the vowel of the root absorpt as in Msé, voce fire, &c.																																										
Hyúng in Serpa.																																											
O'ng-kyong.	{ Compound of Yú and Ong, synonymous roots.																																										
	{ Compound of Kyú (see rain) and O'ng, supra.																																										
Wó-hóng in Limbu.	{ Obvious compounds from the precedent elements. River, rain, water, so run into each other that no justice could be done to the real synonymies by technical separation.																																										
Khyóng in Lau.																																											
Khwóng in Gurung.																																											
Khyong in Burmese.																																											
<i>Rain.</i> —Kú-a, Kwá in Abassian.																																											
(Or) Kyú-ré in Akush.	{ For ré suffix, see the supplement. 'Or' disposed of above. Kyu is ku with the intercalate y as in Nyi for Ni and Khyi for Khi.																																										
Kú-i, Kwi, in Murmi.	{ Li may be a root = sky and then Liku is sky water, or it may be the Li servile.																																										
Kyú in Gurung.																																											
Li-kú in Sunwar.	{ Compound of two synonymes Abassian Kú and Kubitsh Si! For si, apart, see on.																																										
Khu-(si) in Newari.	{ Voce 'dog' we have summarised the changes to which the elements of words are liable, when taken singly or when a single element constitutes a word: we may here take occasion of the great water root (or of available space, rather) to summarise the changes those elements are liable to in conjunction, or when more than one goes to the composition of a word. They are																																										
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	<p>5th. By transposition, as mim-ma and mi-sa, versus sa-mi, and s-mé, voce man.</p> <p>6th. By substitution as fa for ma, voce fire; di for bi, voce skin.</p>
Shi-n in Kubitsh.	<p>Final n servile. This is easily said by way of disposing of an inconvenient particle. But I appeal to the uniform tenour of the whole of my paper for my proofs.</p>
Shi-n in Kasikumak.	
Shé-n in Akush.	
p Shi in Tsherkesik.	
d Zék in Absne.	
T'cha-ri in Mingrelian.	
Chi-m in Tshari.	<p>M, conjunct ma suffix, as in Lepcha, nyim voce day, and in Mru sham voce hair.</p>
Sé in Altekeseek.	<p>Often cited with the dú suffix as is d zé in Absne. See remarks on Tshe-do voce earth.</p>
Chi in Garo.	
Chi in Dhimali.	
Ti-chi in Gyarung.	<p>Has the inseparable ta prefix, harmonised in its vowel.</p>
T'ché in Mopla.	<p>The same prefix conjunct.</p>
m Chi-n in Jili.	
Cho-du-k in Mongol.	<p>Means 'spring.' Observe that the dú suffix, is frequently attached to Absne Zé and Altekeseek Sé, though omitted here.</p>
I'-si-ng in Khyi.	
Wé-si in Ugorian.	<p>Compound of two synonymous roots.</p>
n t Sin in Singpho.	<p>n-t, prefix, and n, suffix, serviles, Sí being the root.</p>
Chá-wa in Kiranti.	
Chá in Thochu.	
Water.—T'zú-n in Kubitsh.	<p>Zú = sú = chú, the root.</p>
Shú-r in Armenian.	<p>R, final, the common ra suffix, conjunct.</p>
T-sú-en in Samoiede.	<p>Cited to illustrate Tzú just remarked on. Final en is metastatic ne, a servile.</p>
Chhú in Tibetan.	<p>Aspirate chh = Ts and Tsh by numerous examples, though the Tibetan alphabet has both letters.</p>
Chhú in Lhopa.	
Chhú-a in Limbu.	
Chhú-wá in Kiranti.	
Shú-i in Gyami.	
Sú in Anam.	
Sú in Turki.	
U-sú in Sokpa.	<p>U and Sú, are synonymes. U is, in fact, the basis of a whole series of words for water.</p>

Chú-rá in Kalmak.
Chó-dú-k in Mongol.

{ Means rain. The ra suffix = dú,
to which is added the articular
k. Dú however may here be a
root and synonyme.

Cow.—b Sá in Circassian.

{ Turn to the Tibetan word and
mark how root and servile are
commutable.

Sá in Newari.
Sá-lo in Sokpa.
Sha-r in Mongol.
Sha-r in Khyeng.

Lo, servile. La, Li, Ló, its phases ;
r, the common ra suffix.

Bá-shá in

{ Note how the surplus silent b of
Circassian here becomes a regular
prefix.

Bá in Tibetan.

{ Takes up the servile b of the Cir-
cassian and makes root of it as
already noted in various other
instances.

Bi in Sunwar.
Bi-t in Limbu.
Bi-k in Lepcha.

Cow.—K-chú-g in Osetic.
Má-shú in Bodo.
Má-chú, spoken Tibetan.

K and g, serviles. Chu, root.
Má, feminine sign.
Má, as before.

Dog.—Chó-í in Avar.
Chó-í in Andi.
Chó-í in Chansag.
Chú-á in Akush.

K-chú-d in Osetic.

{ Initial k and final d, serviles. The
latter is the conjunct form of
the da, du, do, suffix remarked
on in the supplement.

Shu-n in Armenian.
Chó-í in Bodo.
Chú in Magar.

Chí-ta in Moasi.
Sé-ta in Sontal.

{ Ta, the common servile, which, like
all others, may be prefixed or
suffixed.

Dog.—Khá in Circassian.
Kó-a in Kubitsh.
Gwai in Dido.
Gwi in Dugoric.
Khí-á in Dhimali.
Khí-á in Limbu.
Khí in Lhopa.

{ We may take occasion of the cycle
of changes seen in this word to
make a general remark. That
homogeneousness and vitality
belong to all the elements (roots
and serviles) of words in these
tongues is a very important truth,
as well for the illustration of
general philology as for the ex-

Dog.—Khi in Gurung.
 Khwá in Thochu.
 Khwé in Burmese.
 Khyi in Tibetan.
 Geu, Gyú, in Chinese.
 Na Gyú in Gurung.
 Ká in Horpa.
 Ká-í in Garo.
 Kou in Gyami.
 Kú in Sák.

Ta-kwi in Mru.

Dog.—Kút-chik in Kurd.
 Khí-cha in Newari.
 Ko-chu in Kiranti.
 Kú-chúng in Sunwar.

Dog.—Húé in Chunsay.
 Hwé in Tunglhu.
 U-i in Kumi.
 U-yo in spoken Tibetan.

Tree.—K-Cha-d in Osetic.
 Ché in Mizjeji.
 d Sé-g in Circassian
 d Sá in Lazic.
 Sé-k in Suanic.
 Shi in Gyarung.
 Si-ng in Moasi.
 Shi-ng in Bodo.
 Shi-ng in Dhimali.
 Shi-ng in Lhopa.
 Si-ng in Magar.

planation of the extraordinary extent to which transposition and substitution among those radical and servile elements are carried. It is likewise true that these elements and the words resulting from them are less flexible and mutable than among the Arian tongues. But it is by no means generally or strictly true that "all the words are invariable." On the contrary, the words, whether consisting of monosyllable roots, or of such roots and their servile adjuncts, are constantly subjected to changes, which are clearly systematic, which belong alike to the radical and servile particles, and which may be summarised as follows:—

- 1st by aspiration, as Khi for Ki.
- 2nd by change of vowel, Ko, Ku, Ke, Ka for Ki.
- 3rd by intercalation of y, Khyi for Khi.
- 4th by metastasis, ain for nai, voce ear, &c.

Kwi root = Ku-i.

These are compounds of the two preceding words—a sort of terms very common in all countries wherein many tongues prevail.

The root varies from Chá to Ché, and Sa to Sé to Si, to Shi. The suffixes have occurred too often to call for further remark in this place.

- Si-n-du in Gurung. { Here is a Mongolian sample of the dú suffix, so frequent in the Caucasian series. Ka-n-du, Ka-do-t, &c., voce foot, are further samples.
- Sá-ng in Anam.
Sí-ma in Newari.
T-sing in Mru. { Sá, Si, the root, ut supra. Of ma suffix we have had samples in Nhi-ti-ma, voce day, Chi-m, voce water, Cha-m, voce Hair, &c.
- Forest.*—Dish-chá in Mingrelian.
Din-chá in Dhimali. { The Osetic Chá = tree is clearly the basis of these two words for forest.
- Bird.*—Pú-r-ti in Andi. { Compare Ta-r-ti, a cap, Ti-r-mi a man, Nyi-ti day, of the Mongolian series, and the Pú root will be easily apprehended.
- Pét-tang in Avar. { Tang, servile, is the ta particle with the common nasal addition. How common it is may be seen by consulting my Himalayan Vocab. Pé is the root, borrowing the t from the servile suffix.
- Pyé in Gyarung.
Pyá in Takpa. { Pyé = Pé. The frequent intercalation of y, has been already noted in Ni, Nyi, Khi Khyi, &c.
- Byú in Tibetan. { Abstract the intercalate y, and the root re-produces that of the Andi Pú-r-ti.
- Bú in Limbu.
Pho in Lepcha. = Andi Pú.
- Fish.*—b Zhéh in Circassian. { Turn to the word for flesh, and you will see the differential function of the prefix b.
- g Zháh in Thochu. { Initial g = b supra. These are merely the conjunct forms of the ba, ga prefixes. The conjunct and disjunct system of prefixed, as of infixed and postfixed serviles, prevail alike in the Caucasian and Mongolian tongues, as evidenced by this paper throughout; and the prevalence of both systems is another striking feature of that perfect analogy which pervades these tongues.

Di-shé in Magar.

Di, servile.

Flesh.—Zhéh in Abassian.

Jé-chu in Suanic.

Li-chá in Finnic.

Shá in Tibetan.

Shá in Takpa.

Ta-Shá in Gyarung.

A-sá in Burmese.

Li, servile. Chá root.

{ The prefix ta is as common in Gyarung as is A in Lepcha and Burmese.

Egg.—Dú-khi in Akush.

To-khá in Garo.

Tou-chi in Garo.

Tou-dóí in Bodo.

Du, Water? Khi, fowl?

To, blood and kha, fowl.

Tou, fowl and chi blood.

Tou, fowl and Dóí water.

Tó-i in Khyeng.

Dú-i in Mru.

Dú in Kami.

Tú-í in Dhimali.

U in Burmese.

{ U Burmese, meaning originally 'water,' is the root of all the other words, for which see 'Water.' The metaphorical and now only current sense of the word is even more singular than that of the preceding terms, amongst which the first is determined analogically. The literal sense of U is lost in Burmese, like Mi for man.

Ear.—Ná in Armenian.

Ain in Tshari.

Ain in Avar.

Ná in Burmese.

r Ná in Tibetan.

Ná in Singpho.

Ná-vo in Lhopa.

Né-ko in Limbu.

Ná-ku in Karien.

Ná-pé in Murmi.

Ná-bé in Gurung.

{ Ain = ná-i, per metastasin.

{ Ná, the root, speaks for itself. Vo = bo = be = pe are phases of one and the same servile which = ko, ku. De Coros calls these "articles;" and like all the serviles, they often perform the articular function of specification or emphasis.

A-ga-ná in Kami.

Ká-né in Sak.

A-kha-ná in Tankul.

Ná-i-pong in Newari.

Nhá-tong in Dhimali.

{ A rich fund of illustration of the serviles, the Ná root being unquestionable. My Himalayan Vocabulary afford numerous samples of the pong and tong suffixes which are but pa and ta with the frequent nasal addition.

Hair.—T-shá-r in Kasikumak.

Sá-b in Avar.

Sáb in Anzukh.

Sá-b in Tshari.

{ Shá the root t' prefix and r suffix as before in endless examples.

{ b final the conjunct form of the ba, bo suffix, so common in Tibetan.

Shá-ben in Burmese.	
Shá-m in Mru.	{ M servile = b, and constantly com- mutable with it.
Chá-m in Magar.	
A-shó-m in Lepcha.	{ A prefix and M suffix, so common in Lepcha that almost every adjective in particular is thus formed.
A-shá-m in Kami.	
Lú-sá-m in Khyeng.	
Lú-sá-m in Khyeng.	{ Lú = man. Hence lusam is hu- man hair.
<i>Head.</i> —Tá-wi in Georgian.	{ wi, servile = bi, vi, infra compare wi-shá, voce salt.
Tá-u in Khas.	
Thá-bo in Murmi.	{ Aspirate form of root, with bo suffix.
Tá-ng in Kiranti.	{ Ng servile the customary nasal appendage often superceded to other serviles.
Thá-gek in Limbu.	{ Gek servile. Compare git in Tshi- git, voce earth.
Thau in Gyami.	Aspirate root as in Murmi.
Ka-taú in Mou.	{ Ka, the common prefix. Note that, in general, a, servile may beknown by the absence of accent, or of broad vowel where writing is used.
<i>Head.</i> —Káh. A-káh in Absné.	A, servile, as in A-shom A-sa, &c.
Za-ká in Altekesek.	{ Za servile, the sa prefix in its usual Caucasian phase.
A-ká in Tangkul.	
Ká-ng in Burmese.	Ng servile.
Da ká-m in Garo.	Prefix da and suffix m, serviles.
K-ra in Gurung.	{ Compare Hra for Hora Mse for Me-se. So Kra for Ká-ra, the ra suffix absorbing the vowel of the root.
Kho-ro in Bodo.	ro servile with harmonised vowel.
<i>Horn or</i> <i>Bone.</i> —} Ra-k-ka in Tsari.	{ Ra, root ; ka servile adds k to it.
R-ka in Georgian.	{ Servile ka absorbs the vowel of the root rá.
Rá-g-s in Lettic.	g, and s, servile.
Rú-g in Slavie,	g, servile.
Ak-rá in Lazic.	{ Ak servile as in Ak-sa. It is the ka suffix changed per metastasin.

Rá, and Rú in Tibetan.	{ Pure root, of which rá, rú, ró ré are the phases.
Rá-jo } spoken Ditto.	{ jo servile and ka also, differential addenda.
Rá-k in Thochu.	{ K final, conjunct form of ka suffix, = prefixed K' in Ak, which itself is merely metastatic ka.
A-ro in Rukheng.	
Rou in Lhopa.	{ rá servile, or sing song repetition of root. Dé, servile, the da particle harmonised to vowel of root.
Ré-ra in Horpa.	
De-réng, in Sontal.	'am,' servile, metastatic ma.
Am-rá in Sak.	
A-ro-ng in Lepcha.	'a,' prefix, and ng suffix, serviles.
Rú in Gurung.	
	Pure root.
	{ The roots for horn and bone are constantly the same, both in the Caucasian and Mongolian tongues. The senses are sometimes distinguished by an additional particle, as in Magar, which uses the pre-prefix mi, = human to demark bone. Just such is the form in lusan, voce hair.
Ró-s, Rá-ng, in Magar.	
	{ The root is Lú, which is really only a varied pronunciation of Tibetan Rú. But note how the servile t stands equally as prefix and suffix, just as does the servile r, voce stone.
Bone.—t Lú-sa in Dido.	
Lo-t in shan.	{ Tsi = Magar Mi, just remarked on : zyá, root, compare lusan, voce hair.
Bone.—Tsi-zyú in Suanic.	
Gyó in Burmese.	ró, servile.
Guro in Sunwar.	
Mouth.—Mó-lé in Kubitsh.	Mó, the root. Lé, servile.
Mú-ra in Limbu.	Mú, the root. Rú servile.
Mú-r in Khoibu.	The same with ra conjunct.
Mhú-tu in Newari.	{ Mhú, aspirate form of root as Mhé for Mé, fire Nhi for Ni, day, &c. &c.
Tooth.—d Zéh in Circassian.	d servile.
Zá-vi in Avar.	{ Z = s. Observe that in the Mongolian samples the conjunct form is used, swi, swá.
Sí-bi in Lesgian.	
T-shi in Chinese.	t' servile, = d Circassian.

Só in Lhopa.
 Wá in Newari.
 S-wá in Murmi.
 S-wé in Thochu.

Ti-swi in Gyarung.

{ Ti, the usual Gyarung prefix harmonised to the root.

Th-wá in Burmese.
 Só in Tibetan.
 Só in Serpa.

Th, servile.

A-tha-wá in Sak.

{ Repeats the Burmese prefix with an additional one.

Sá-k in Gurung.
 Sya-k in Magar.

{ K, servile, the quasi article so often noticed.

Si-tong in Dhimali.

{ Tong is the ta suffix with the nasal addition before noted.

Syó in Horpa.

{ Intercalate y, as in Khyi for Khi, voce dog, Nha for Na, voce ear.

Horse.—t' Shé in Circassian.

A-sé in Tuwash.
 z-Ché-ni in Georgian.
 Shé, Sé in Tibetan.
 Shé in Khyeng.
 Sá in Sak.
 Sá-la in Newari.
 Sá-dom in Sontal.

{ Sá, changing to Sé is the root, the aspiration being neutral as to sense. Thus we have Mhe or Me, Nhé or Né, Khi or Ki, &c.

Dom suffix, is the sexual sign.

Foot.—Pé-ché } in Georgian.
 Pé-chi }
 Pé-t-ché in Mantchu.

{ Note the marvellous correspondence of this word with its Mantchu equivalent, roots and serviles tallying, as in Katshu, voce hand.

Foot.—Po-g in Lesgian.

Pa-g in Chunsag.
 Pa-g in Anzukh.
 Pa-g in Khas.
 Pá-li in Newari.
 Bhá-lé in Gurung.
 Bá-lé in Murmi.

Foot.—T'shé-ka in Andi.

Chhé in Horpa.
 Ché-n in Anam.
 Lip-ché in Manyak.
 Lap-ché in Manyak =

hand.

Chap-lap in Garo.
 Chhá in Gyami.

{ The manner in which the words for hand and foot run into each other, *alike in the Mongolian and in the Circassian* series, is truly remarkable, so much so that it is difficult to distinguish the terms. The Georgian Pé-ché, like the Mantchu Pét-ché, in fact blends the more special names for the lower and upper members, and so do the Manyak Lipché and Lapché, the latter word meaning hand, whilst Chéli, hand in Georgian, has the Ché root of foot with li servile.

Foot.—Ká-ch in Osetic.

Ko-ch in Tshetshentsh.

Ko-g in Ingush.

Ko-g, Ko-ek, Kwek in
y, Mizjeji.

{ Ká, Kó, is the root in all these words and in the next one. Yet the two latter mean hand—a sufficient confirmation of what just said!

Kó-da in Kabitsh.

{ For dá suffix, see remarks on Tshe-dá, voce earth, and compare Ka-do and Ka-do-t, infra.

Kó-ng in Khyi.

Ká-ng in Tibetan.

{ Final ng, servile, as in many prior instances.

Ká-ng-lep in Lhopa.

{ Lep may be servile, or it may be the radical lip, lap of Lipché, Lapché, &c.

Ká-n-du in Ple.

Dú servile, also the annectant n.

Ká-do-t in Mon.

Ká-do in Pasuko.

{ Mean leg, yet have indubitably the same root as the foregone, the Do being servile, as in Tshe-do, voce earth.

Kó in Horpa.

{ The nude root, vast numbers of such words occur in all the tongues alike.

A-kho in Kami.

{ A, servile: Kho, the mere aspirate phase of Ko.

Khó-khó-i in Dhimali.

{ Root repeated, as in Ká-ká, sky; Cho-cho, hot, &c.

Khyé in Burmese.

Khau in Tunglhu.

Khú-t in Khoibu.

Khú-t in Khas.

Khá-ng in Newari.

Means leg.

Foot.—Tá-i in Kubitsh.

Tá-ra in Moasi.

Ra, the common suffix.

A-tá-r in Sak.

{ A, the servile, so frequent in Lepcha and Burmese: r = ra.

Tá-mi in Gyarung.

Ka-tá in Sontal.

Mi servile, means human.

Ta root. Ka, the common prefix.

Hand.—Ká-r in Tshari.

{ r servile, conjunct ra, as in the following words.

Kú-ch in Osetic.

Ch servile, compare Sé-ch, &c.

Kwé-r in Anzug.

Ká-r in Sokpa.

Gá-r in Mongol.

{ r final servile. Kú-er, observe here that Kú, Ká, Gá, is the root throughout the whole series and note the identity of the word in Sunwar and Anzak with reference to the alleged Greek etymon of Kwér.

Ká in Kumi.	The pure root.
A-ká in Kami.	} A and ta prefixes, serviles.
Ta-kú in Sak.	
Kwé-li in Sunwar.	{ Li servile, as in Ché-li, Georgian for hand. The word therefore is identically Anzug, li being = r.
<i>Hand.</i> —Kat-shú in Andi.	{ Shú, the root. Kat, a double ser- vile ; ka-ta a marvellous accord !
Kat-shú in Plé.	
<i>Hand.</i> —Ché-li in Georgian.	{ Such samples leave no doubt as to li being a servile.
Ché in Mingrelian.	
Shi in Suanic.	Pat, double servile, pa-ta.
Shú in Gyami.	
Pat-shu in Pusako.	
Chú-a-sé in Ple.	{ Compound of Andi Shú and Min- grelian ché !!
<i>Blood.</i> —t'Shá, Shá in Absné.	{ Compare the conjunct servile in the Absné word, and observe that the so-called monosyllabic and poly- syllabic character of languages has been made to rest on this frail foundation !
Shá in Manyak.	
Sáh in Thochu.	
Séh in Horpa.	
Syé in Gyami.	
Ta-shi in Gyarung.	{ Observe that the change of root from Thú to Thwé is exactly similar to that of Kú to Kwé, voce hand. This identity of plan prevailing throughout speaks trumpet-tongued for the truth of the affinity of races contended for.
<i>Blood.</i> —Thú in Osetic.	
Thwé in Burmese.	
Thé in Sak.	
Thé in Kasswi.	
Thó-i in Garo.	Ka servile. A servile. K, the articular suffix.
Ka-thi in Khyeng.	
A-thi in Kami.	
Thá-k spoken Tibetan.	
<i>Blood.</i> —I, E' in Dido.	N servile.
Hí-n in Andi.	
I in Khyi.	
Hí in Newari.	
Hí-t in Kong.	t' servile.

Hi-ki in Dhimali. { Ki servile, the ka suffix harmonised.

Hí in Khoibu.

Hí in Marung.

Hyú in Magar.

Blood.—Zí in Tshetshentsh.

Zí in Ingush.

Zí in Mezjiji.

Blood.—Ū-sí in Sanwar.

Chí in Garo.

A-zí in Champhang.

A-zyé in Maram.

Ū servile as in ú-má, voce fire.

Blood.—Bí, Pí in Avar.

Ví in Lepcha.

Wí in Mrú.

Skin.—f Fé in Circassian.

t'Ché-bi in Mingrelian.

Ga-shi in Armenian.

Pé in Kami.

Pí in Chinese.

Fí in Gyami.

Pí in Mrú.

Ché-gú in Newari.

Pá-ko in Lhopa.

Pa-g in Tibetan.

gú servile, as in Chan-gu hot.

Skin.—Ká-ni in Georgian.

Ka-n in Suanic.

Kám-pa in Lhopa.

{ Ka is the root passim. Ni and n, two phases of the same servile. The 'm' in Kampa, a euphonic copula with reference to the labial of the root.
Pa, servile, the common ba, pa suffix of Tibetan.

Skin.—Bi-k in Dido.

Di-bi in Murmi.

Di in Anam.

{ Here is another sample of the substitution of servile for root, as Fá for Má, voce fire, &c.

Bi-gur in Bodo.

{ gu-ra, double servile. See remarks voce Ego = homo.

Tongue.—bb Sé in Circassian.

rd Zhé in Tibetan.

Shé in Chinese.

{ These repeated serviles bear direct reference to the very numerous senses of the Sé root, and thus we learn the differential function of the serviles. See remarks voce man.

Stone.—Dó-r in Osetic.
r Dó in Tibetan.

{ Note again how the suffixed and prefixed serviles tally, the root (Dó) being here indubitable. So Tsari chi-m and Jili m-chi, voce water.

Dóh in Lhopa.

Dóh in Serpa.

Dún-ga in Khas.

{ ga, suffix, and annectant n, both servile.

Stone.—Ló-di in Georgian.

Lú-n in Khyeng.

Lú-ng in Limbu.

Ta-lú-n in Sak.

Ló-ng in Lepcha.

Ka-lú-n in Kami.

{ Root is Ló, Lú. The serviles have been too frequently remarked on, to need repetition. But note well how congruous they are ab initio usque ad finem!

Great.—Di-di in Georgian.

Di-di in Mingrelian.

{ Root repeated, as in Cho-cho, Pyé-pyé, &c. &c.

Di in Tai.

Gé-dé-t in Bodo.

{ Gé, the gá prefix euphonised: t, conjunct ta.

Dá in Kuanchua.

Dá-i in Anam.

Dá in Plé.

i final, servile.

ta-Dhí in Newari.

{ ta, the common prefix and dhi, the aspirate form of the root, as Mhé for Mé, &c.

Three.—Sami in Georgian.

Sami in Mingrelian.

Jum in Lazie.

Sum, Shum, Sam, Song, San, Tham, Tum, in all the Tibeto-Himalayan and Indo-Chinese tongues.

Four.—p Sí in Circassian.

p Shi in Abassian.

b Zhi in Tibetan.

Zhi in Lhopa.

Zhyi in Serpa.

{ Both root and servile are identical in all five words; another marvellous instance of concord, capable, like the rest, of only one explanation.
Intercalate y, as in the nouns.

Si, Si-kú in Gyami.

Kú, a servile.

t' si in Siamese.

t' sé in Shan.

{ t', servile: the common ta particle, conjunct.

Si in Tai.

The nude root.

Five.—Chú-ba in Circassian.

Pat-chú in Talien.

{ Chú, the root. Pat, a double servile as in the Pasuko word for hand.

- Eight.*—Yat-sh in Tshentsh. } Final sh', servile. Another beautiful sample of affinity.
 Yat-sh in Limbu. }
 g-Yet in Takpa. } g, servile, = v, d, p, below.
 Ka-yá in Kami. }
 Ba-yá in Tangus. } Yá the root throughout the whole series, with the common vocalic changes.
 Ri-yá-t in Mrú. }
 Re-yá in Kiranti. }
 Yó in Sunwar. }
 Or-yét in Gyarúng. } 'Or' servile, in Gyarung.
- Eight.*—Rwa in Georgian. }
 Rú-a in Mingrelian. }
 Ré-ya in Kiranti. }
 p-Ré in Murmi. }
 Ryië in Horpa. }
 Rá-nit in Mru. }
 Rá, Rú, Ré, is the root beyond doubt, though the Kiranti sample under both this and the preceding head shows how readily roots become serviles and vice versâ.
- Nine.*—b gú in Circassian. }
 d gú in Tibetan. } Note again the wonderful accord of root and servile.
 r gú-ré in Thochu. } The ra particle here appears both as prefix and suffix.
 Gú-bi in Manyak. } Bi servile, as in Circassian.
 Gúh in Sunwar. } The pure root.
 Gú-n in Newari. } N, final, servile.
 Gó in Horpa. } Nude root again.
- Kan-gú in Gyarung, } Kan, double servile, Ka-na = Kam in Kampa, voce skin.
- Ten.*—p Shé-n in Circassian. }
 Zhé-ba in Abassian. }
 Swá-ba in Circassian = }
 Sú-a. }
 b Chú in Tibetan. }
 t Sha-i in Burmese. }
 h Sú in Kami. }
 Chi in Garo. }
 ta-Chi in Gyarung. }
 Shi in Chinese. }
 Sha-i in Tangus. }
 ta-Shi in Tunghlu. }
 Sí-sú in Sak. }
 t-Sa-u in Talien. }
 p-Chi in Takpa. }
 Chú in Serpa. }
 Chá in Gurung. }
 Chá in Lhopa. }
 Sá-n-ho in Newari. }
 Sá, Chá, is the root with the usual cycle of changes by aspiration and by alteration of the vowel; and to the root, moreover, are added the usual variety of servile appendages in some cases, whilst in others we have the nude root. All this is perfectly conformable to what has been seen in the nouns, and it follows therefore that the peculiarities commonly ascribed to the numbers do not really exist. The nature of the error, as derived from the examination of a few only of these tongues, may be appreciated by adverting to the remarks in the next paper on the differences presented to all *such* observations.

Chi-chi-bi in Manyak.

{ Root repeated with ba suffix harmonised and *serial* as in Circassian. This feature of the numeral serviles is of frequent occurrence. See Essay on Bodo and Dhimali for two good samples.

P. S. The above paper has been considerably augmented in number of vocables, and in the analysis of them, since it was first presented to the Society, though not to the extent I had hoped and purposed if health had not failed me. If however the principles of the analysis (sufficiently revealed in their application and in the observations of this and the following paper) be sound, they may be easily carried as much further as is desired.

With regard to the soundness of those principles I am fully prepared for censure of the presumption of attempting to analyse unknown tongues ;—prepared also to see many errors of detail detected, to afford apparent justification of such censure.

I can but solicit the particular attention of the candid to the perfect uniformity of the phenomena presented by the vocables, whether nouns, pronouns or numerals, from the very beginning to the very end of my paper, and ask, How this is to be explained, except upon those principles which a comparison of the numerous Himálayan tongues with each other and with that of Tibet led me first to detect, and which my opportunities of novel exploration beyond the Himálaya afforded me great advantages for testing the more extended application of? I have to regret that my investigations have been interrupted just when they were beginning to produce their ripest fruit, and to solicit the Society's favourable construction of what is now submitted, as it is, rather than trust to an uncertain future for its improvement.

Supplement to the paper on the Mongolian Affinities of the Caucasians.

Since the above paper was hastily written I have obtained through the courteous aid of our Secretary the loan of the Mithridates and Asia Polyglotta. The ampler stock of Caucasian and Mongolian vocables thus placed within my reach (and illustrated too by occasional analytical notices) has needed only to be compared with my

own large stores from the Himálaya, Tibet, Sifan, Indo-china and Tamulian India, to satisfy me that the widest assumed scope of Allophylian affinities might be placed on an unassailable basis. Again, a renewed reference to well known works* has equally satisfied me that nothing short of a careful analytical demonstration would be accepted after the frequent insufficiently supported assertions, and more or less superficial investigations that have been given to the world, even Dr. Latham's splendid panoramic view of the subject, though in fact well grounded on the opinions at least of numerous scholars,† and fortified, moreover, by the adduction of some special evidence‡ either priorly overlooked or only recently accessible, having met with a cold, not to say a scoffing, reception.§

I therefore beg permission to withhold for the present the comparative list of Caucasian and Mongolian vocables which I had prepared to accompany the above paper on the resemblance of Circassian and Gyárúng pronouns, pledging myself that that list shall ere long be submitted to the Society, so amplified, and analysed, as to enable the scholar both to test and to extend the analogies sampled by the list.||

In the meanwhile and with reference to the above paper I sub-join some farther explanations which will not only serve to illustrate more fully its special topic (pronouns), but to show how continued attention to the general topic teems with fresh proofs of the soundness of the opinion that Caucasus is essentially Tartaric, and that the widest sense of the word Tartaric is the truest.

Klaproth, who was too well informed on the subject to insist on the Arian origin of the Caucasians generally, yet contended that the Osi were Indo-germanic.

I shall soon be able, I think, to show that the elements and the mechanism of words in the Osetic tongue are purely Tartar, and that

* Prichard III. 13 et seq ; IV. 384 et seq. Report of the British Association for 1850, p. 174 et seq. Madras Journal for July 1837, and January, June 1850.

† Klaproth, Dobrosky, Rask, Rolt, Norris, &c. &c.

‡ Brown's Indo-Chinese vocabularies, and Rosen's Caucasian Researches.

§ Edinburgh Review. Article Bopp's Grammar.

|| This has been done, I hope tolerably effectually, in the list as it now stands.

the very name of the race (O-si*), like that of the Georgians (Swan), proves their Tartaric progeniture, these names being significant, and significant in the special mode in use among the Tartar races. How Bopp could contend for the Arian origin of a race styling themselves Swan, and go to Sanscrit for Georgian etymologies, I am the more surprised, as Swan in Sanscrit means Dog, and we can hardly suppose that the Georgians or any other people would call *themselves* Dogs, though their neighbours might so compliment them. Not to travel however beyond pronouns, I may mention that I have a long list of Mongolian equivalents for the Caucasian pronouns, and that, for instance, the Má root in all its phases (Má, Mí, Mó, Mú,) and in both its senses (nominal and pronominal) will be exactly matched by a long series of Tartaric equivalents. Nor are the so called inflections or declensional signs, less Tartaric than the roots; for instance í or ní for the genitive; an, ang, náng for the dative case; the í being Tibetan, Takpa, Horpa, &c.; the ni, Mongol, Mantchú, Turki, Bodo; the an or ang, nan or nang, Dhimáli, Turki, Ouigúr, &c. Here is a sample.

Pronoun I.

	<i>Ouigúr.</i>	<i>Osetic.</i>
N.	Ma, Ma-n,	Ma, Ma-n
G.	Ma-ni-ng,	Ma-ni.
D.	Ma-nang } Máng-gé }	Ma-nan.

In Ouigúr the first na suffix is often dropt in the dative, and the second, reiterated; and thus we have Manggé for Ma nang. Both changes are thoroughly consonant to the genius of these tongues, and are in perfect harmony with the alternative nominative form Ma, or Ma-n. The n final is here simply emphatic, and is the conjunct form of the na suffix. All these particles, in either their servile or radical character and function, may be used conjunctly and disjunctly, that is with or without their vowel;† and all may be also

* See the note in the sequel on words with the O' and Sí roots, O-as, O-su-ri, O-zu-r-ka, &c.

† Here are some examples, k' ma-ri man in Georgian, ka-mi, man in kami: Mú-rú, man in Sunwar, M-rú man in Mrú (root, ma, mi, mu): M-za, fire in Absné, Mi-za, fire in Avar (root mi): S-mé girl in Horpa, Sá-mé girl in

augmented by various new elements or by reiteration, without affecting the sense in either case. Here are some samples of the disjunct and reiterated, or added ná, with one of these singular equivalents.

Pronouns I. Thou. He.

Tibetan	Na, Nani.	Khé, Khéna.	Khó, Khóna.
Esthonian	Ma, Minna.	Si, Sinna.	Tá, Temma.

We see here that the suffix má is equal to the suffix ná. So also is the suffix rá, which has been noticed as common, in form and function, to the Circassian and Gyárúng tongues, but which in fact has a wide and almost universal prevalence among these tongues, being attached like all the other serviles alike to pronouns, nouns, numerals, adverbs and changing or dropping its vowel as well as taking the sursuffix n, ng, without more alteration in its meaning than in the other cases of reiteration and elision and vocalic changes above illustrated in the pronominal roots and serviles, and in the nominal ones also, by the subjoined note.

In fact such, and much greater, reiteration, cumulation, substitution and vocalic change, with concomitant contractions medial and final, affecting roots as well as serviles, are chief almost among the fundamental laws of these languages and constitute the veil that has so long concealed their complete affinity. Who, for instance, would suppose Namasini or contractedly Namsin, day, to be the same with Ni, Nyi, or Nin? Show him, however, the intermediate forms Nani, Mani and Sini, and show him also this intercalate y and final n of the root, as well as this cumulation and these changes of the serviles, holding good in a great number of *other* instances, and you will carry him with you in this one and the rest, as I hope to do my readers by and by.

Here are some further pronominal illustrations of the Ra suffix.

It attaches, as rá, to the 1st and 2nd singular in Circassian, exclu-

Tunglhu, Sa-mi girl in Burmese (root mé, mi). Note also the vocalic changes of roots and of the servile ra, in ma-ri and mú-rú and m-rú ka servile of Georgian kmari, is dropt in Suanic Maré, where again the servile ri becomes ré. In the Indo-chinese tongues we have the ka prefix present and absent in this very word, mau, just as in the Caucasian, witness k' lun in kolun being lun in Burmese. I may add L-ó-k in Tai and Lé-g in Osetic with the k vel g suffix (root, lú, ló, lé).

sively ; to the 2nd singular only in Gyárúng, as ré ; to the 3rd singular only in Mongol and Mantchú, and Sokpo, as ré ; to the 3rd singular only in Gondi as r ; to the 3rd plural only in Turki, as ré ; to all three plurals, and to no singular in Rukheng, as ró ; to the same in Burmese as dó, (local difference and of pronunciation merely) ; to the 1st and 3rd plural in Mongol as dá and dé respectively ; to all three plurals in Takpa, and to them only, as rá ; to all the persons singular and plural in Tibetan, as ráng, usually rendered by self ; to the 1st and 3rd plural in Ouigúr, as ár vel lár. The usual reading of Olar, they, is O-lar, making lar a so-called plural sign. But if Ol be 'he,' in Ouigúr and Turki, ol-ar must be 'they.' However, O is undoubtedly the root ; as proveable by numberless instances in the cognate tongues ; and lá is an infix, and O-la-ra, the true etymological analysis, as of the Turkish anlar and anlaré, the analysis is, a-na-la-ra, á being here* the root (anggé, to him a-ning, his), and na-la-ra, serviles, whereof the first is the emphatic ná above illustrated ; and ár, vel rá, vel lá-rá, the so-called plural sign or signs, though in my judgment it is to mistake the true genius and character of these tongues to give to any of their particles, except with extreme reserve, the attributes of strict grammar (declensional marks), or a precise independant signification such as self for ráng in Tibetan. Ráng is a compound of the rá, and ang particles. The phases of the latter are á, an, ang, and the reflective or egoistic sense, such as it is, (it is most like that of the Sanscrit swa) attaches, not to the compound ráng, but to the simple áng. In Bódo and Gáro and Hayu áng stands for the first personal pronoun ; in Limbu and many other allied tongues it is the first possessive, in the form of á. In Tágala and Malaya á and áku represent the first personal, and ang is an articular prefix of the same drift. The first personal is an-ka in Kiranti and a-za in Osetic, prefix in all these instances, in others even of the same tongues it is a suffix;† but still whether

* The change of the root from ó to á in Turki and Ouigúr is continued in Mantchu, wherein it becomes í. Precisely in like manner we have Mi, vel Má vel Mé, for five, and Ni, vel Na, vel Né for day, in Caucasus.

† As ang is prefix or suffix, so is any other servile, for instance the ká of anka, here cited ; thus, k' mari, man, in Georgian (mari in Suanic) and Osurka, maid, in Mingrelian (Osuri in Lazic). See on to further note.

attached to pronouns, verbs, or nouns and whether prefixed or post-fixed or standing alone, as root or servile, it is apt to indicate a reflective character. This is the reason why it so constantly marks the possessive case, with or without a preposed particle; but if with one, usually the ná conjunct, which is only one phase, as ang-gé is another phase, of the repetition of itself; and this is also the reason why in so many of these tongues the áng suffix when appended to verbs and their participles, designates the first person. Thus Kazáng I eat, Kazángti I who eat, I the eater, I eating, from the root zá, zó, in Gyárung. Piré, give; Pi-ráng or Piráng-gé or Piráng-né, give to me, in Limbú, from the root Pi Davo, give, Davóng give to me, in Gyárung, from the root va, vo. These forms are imperative. The indicative ones are similar, thus Piré and Dovo mean, you or he (quavis præter. meipsum) gives; and Piráng, Dovong, I myself give, Ang-né and Ang-gé are equal and are reiterations of the a, an, or ang particle.* Compare ang-gé to me, in Turki and Ouigúr; and máng-gé to me in Ouigúr with their equivalent má-nán in Osetic. Piré and Piráng show very pointedly that the reflective virtue resides not in the rá particle but in the áng particle. This case also exemplifies their conjunction. Má-náng is the disjunct form; máng, the conjunct; and máng-gé, is the same, only more emphatic; máng, to me, máng-gé to myself; and máng-né and máng-ré, are both equivalents and emphasizers merely. So mini is mine; and mining-gé, my own, in Mongol and Mantchú; the náng becoming níng euphonically to harmonise with the mi root. And, by the way, we may here, as in all the other derivatives, note the forthcomingness of the widely prevalent Mi root, though obsolete as a nominative in these two tongues, just as it is in the analogous sense of man (Ego = homo plur. exem.) in Burmese, wherein however we similarly gather it from its derivatives, woman and child, Mimma† and Sa mi.

* In Sontal Uraon, Ho and Hayu, the ang becomes ing, and eng with the very same emphatic reiteration, viz. eng gna and ing ga.

† Compare Esthonian Temma, supra, where suffix ma = emphatic na. All these tongues affect alliteration and consonantal as well as vocalic harmony to an extent quite perplexing, since each tongue has its fancies in this respect. Here má is a root.

I have illustrated the pronominal and verbal uses of the rá particle, as well as explained its relation to rang. Here are some exemplifications of its nominal and other uses. I fear I shall weary the Reader: but he must remember that what is true of this particle is true of all the particles; and that, whereas a confined view of the character and functions of this grand element of these tongues has led to very erroneous notions as to their general affinity, so a complete conception of the nature of the particles is the best guide to a just perception of that affinity. For instance, Rosen has dwelt on the unique character of the Circassian pronouns arising in good part out of the operation of the rá particle, and I, following him, have announced with reasonable surprise the fact that the same peculiarities are attached to the Gyárúng pronouns, whereas in very truth whatever he or I noticed in this respect as to the pronouns is equally true as to the nouns, adverbs, &c., and that not merely in the languages of the Circassia and Gyárúng, but in every tongue from Caucasus to the Pacific. Here is the enumeration.

Ma-re, man, Suanic, Ma-ri, man,* Georgian, Ma-ro man, Lepcha,

* I here omit the ka prefix, with full warrant from usage:

See prior note on kmari and klúu; ka suffix in Ozurka is the same thing and similarly omissible, witness osuri. Here ó is the root, = ú, meaning man, and it also takes the k prefix. Sá is the sa particle harmonised in its vowel to the root. It is a diminutive, so that O-sa, U-sa or U-a-sa is child and Kusa is equally child. We have Kusa and A-sa in Limbu, and U-a-sa in Avor, U-s in Osetic, U-as in Wogul, U-er in Armenian, Sa in its capacity of diminutive means woman as well as child when added to any root for man as U or Mi; and hence Ossetic U-sá woman = Mi-sa, Newari. Such and so concordant are *all* the elements. In Armenian Uerti, child, erti vel rati being servile, it follows that the ú root for man may express juniors as well as adults, whilst the Gyárúng Us, man, and Ossetic Us woman prove that the U root expresses both sexes meaning man-kind or the species man, and also that Sa is not uniformly a diminutive but a synonyme. This will be amply proved by and by, when the O-U-W, and the Sa, Si, Shi, roots for mankind are arrayed, and then it will be also seen that the name of the Osetic people is derived from two synonymes for man, and that, like Tá-tá, or Tshe-tshe-nsh, it is = Allemanni. The Caucasian puzzle as to Us, Ush, Ushi, U-as, U-as-sa, U-er, O-su, O-zu, is solved by this explanation, and if we add the Murmi Bú root for man (supra) we have the clue to the Caucasian Bo-zo, Bo-shi, Bit-shi, Bi-shi, for all which I have numerous Mongolian equivalents, thus Po-zo in Pasuko, Pu-sa in Karien, Bu-cha in Tekpa, Bi-sha and Bi-shi in Bodo.

Mú-rú, man, Sunwár, M-rú, man, Mrú, Ilé-ru, before, Turki, uz-ré upon, Turki, Herel-ri man, Sontál.

Lan-ré, once, Tibetan. Kyú-ré, river, Akúsh. Thó-ré, to-morrow, Tibetan. Wá-ran, rain, Ossetic. Mu-ran, river, Turki. Mai-ran, arm, Mantchú. Koöl-ron, child, Mongol. Kho-rang, sky, Bodo. Chák-reng, hand, Garo. Dí-rang, this, Serpa. Dé-ring, to-day, Tibetan. Ré-m-bú, man, Limbu. Res-ga, where, Tibetan (samples of prefix). U's-rés man, Gyárúng (sa, added). Rgu-re, nine, Manyak. Ma-r, horse, spoken Chinese. Ma-rhi horse, Sokpa. Gá-r, where, Tibetan. Gá-rú, where, Tibetan. Dé-r, and Dé-rú, there, Tibetan. Ta-r-ti, cap, Gyárúng. Ti-r-mi, man, Gyárúng. Ok-ur, ox, Magyar. O-zu-r-ka, maid, Mingrelian (ka added see note). O-sú-ri, maid, Lazic. U-er-ti, boy, Armenian. Pu-r-ti, bird, Andi (ti, added, the rati suffix). Do-r, stone, Osetic. Teng-er, sea, Magyar, Sha-r, ox, Mongol. Khor, river, Avar. Kú-er, hand, Anzúg. Ka-r, hand, Tshari. Ka-r, hand, Sokpo.

We thus see that the ra particle changes its vowel to the utmost (rá, ré, rí, ró, rú) ; takes the ang or other additional particle, (ti, ka, sa) ; occupies the initial (res-ga), medial (pú-r-ti), or final (ka-r) position, or even both (r gú-re), with reference to the root, and lastly, blends itself with that root dropping its vowel (gár), or stands apart retaining its vowel (gá-rú) ; and all this without change or even modification of the meaning of the word as derived from the root further than a certain emphasizing can be so termed, as Kho-rang, *the sky* ; ka-r, *the hand*.

Such elements of speech, and all the serviles are essentially alike, can with little propriety be designated by our grammar terms or alleged to be conjugational or declensional marks except with extreme caution. The essence of a grammatical rule or part of speech is generalization : the essence of the function of these particles is the very opposite or specialization ; and thus it is that unlimited change of place and change of form belong to the latter, whilst nothing of the sort does or can belong to the former.

Of the habit of applying our grammatical terms to the elements of these tongues in central Asia, without any apparent perception of their true character* as noted in the South Eastern islands, I will give a sample from the Altaic group of languages.

* To prove this it suffices to advert to Vater's derivation of the Caucasian kar

The plurals of the Mantchu personal pronouns are thus stated and commented upon.

<i>We.</i>	<i>Ye.</i>	<i>They.</i>
Bé. }	Souwé.	Tését.
Mousé. }		

To this statement of the pronouns it is added that Bé, Sou wé, and Tését, constitute the ordinary series ; that Mousé is a sample of the Dualistic form ; and that it is regularly derived from Mou, I, by the addition of the plural sign sé. Now it is quite true that the existence of a Dual or rather, of an inclusive plural* is one of the characteristics of these tongues and one that prevails very generally from the Pacific to Caucasus. But how it can be said that in the Mantchu tongue this inclusive plural is formed regularly from the singular Mou by means of the plural sign sé, I cannot conceive, since a regular pluralizing particle would be uniformly applied and wear one shape, whereas there is here in the three persons of the pronouns no vestige of such attributes in the sé particle. The ordinary “we” (bé) has no trace of this or other pluralizing suffix : the ordinary “ye” (sou wé) has quite a different augment (wé) ; and, lastly, the 3rd person shows the sé particle indeed, but with a foreign element or suffixed t (sét). Now surely a grammatical rule must have some identity of character ; what it includes must be similar in form and application. But that in the Mantchú pronouns the plurals cannot be said to be regularly formed by the addition of sé is self-apparent ; and if we turn to any collated list of the pronouns of the Altaic tongues generally we shall immediately perceive the same anomalies prevailing throughout this group of languages, and affecting both the form and the application of all the particles ; the *áng* suffix, for instance, being at once a genitive and a dative sign in

and *kwer*, hand, from *χειρ*, and Klaproth’s of Waran rain from *باران* and *Maré* from *مرد*. I shall give numerous Tartar equivalents for all three and thus prove their roots to be respectively *Ka*, *Wa* and *Ma*, the *ra*, *ré* and *ran* being serviles, or rather phases of one servile.

* This remarkable and arbitrary feature of a dual and two plurals I have already detected in the Kuswar, Hayu and Kiranti tongues of the Himálaya and in the Ho, Sontal and Uraon tongues of Tamulian India, I need hardly add that the same peculiarity belongs to the Tagalan and Alforian languages, as well as the Altaic.

a single tongue (sanggé, of thee; manggé, to me, in Ouigúr), and also changing its form entirely in the same case (maning, of me; sanggé, of thee) in that single tongue. Look again beyond the Altaic group and you will see the same anomalies. Every body had noticed them in this or that instance, and I have on this account myself demurred to the use of the pronouns at all as a test of ethnic affinity. I am now aware that I was misled by the authority of great names looking at these particles from a too grammatical point of view. We first make the particles grammatical and then we declare them to be utterly anomalous; the facts being, that they are not strictly or uniformly grammatical, generally speaking, nor perhaps any where so except as the result of Arian influences (Tibetan, Newarese, cultivated Tamulian, and so in Caucasus); and that they obey their own law with perfect uniformity, and equally so when they attach to pronouns as to nouns and to verbs. That they are not strictly grammatical may be shown as well by their inconsistency with any intelligible conception of grammar,* as by the harmonious and simple elucidation they admit of according to their own norma loquendi or mechanism of speech.

Look, for instance, at the following explication of the Mantchu plurals above cited, or Mouse, Souwé and Tését. Mou-sé, we, = I and Thou, thus, Mou is the Ma, Mi, Mo, root for I, obsolete as an ordinary nominative in this tongue, but found as such in most of the cognate series of tongues and forthcoming even in Mantchu in all the oblique cases (Mi-ni; Mi-ninggé; Mi-ndé), Sé, again, is the sá, sé, sí, só, root for Thou; still extant as si in this tongue, as sé in Turki, as sá in Ouigur, Finnic and Esthonian, not to cite more instances from my ample store. Therefore Mousé is beyond dispute a compound of two roots meaning I and Thou. In like manner pre-

* There should be, though there is not, a higher sort of grammar capable of reconciling Tartaric forms of speech with our own, that is, of showing the equivalency of each to the other. In the meanwhile the use of our technical terms in discussing the Tartar tongues is natural, almost inevitable; and at all events I beg earnestly to disclaim all purpose of censure whilst attempting to elucidate. There is much grammar in these tongues, but as I think borrowed and shown to be so, as well by reference to the much larger and unchanged portion of the languages as by the unharmonising character which the grammatical element wears when it exists.

cisely is Sou-wé, ye, a compound of the root above cited for Thou, and of the O, U, root for He; which latter, though obsolete in Mantchu, is extant in Turkí and in Ouigur as O; in Magyar as O'é or wé; in Circassian as úí or wí; in Gáro as ú; in Dhimali, in Gyárúng and in Tunglhu, as wá; in Newari, as wó, &c. &c. Sou-wé ye, is therefore palpably a compound of the roots expressing Thou and He; Só changing to Sou, as Mó to Mou, and O'é to wé; the é more-over being a synonyme of ó, and a phase of the í root, found alike in this very Mantchu tongue and in Circassian; so that the Magyar óé, Circassian úí and Mantchu í, with other instances just cited, lead irresistably to wé = He in Mantchu. Therefore Souwé, ye, is literally Thou and He; as Mousé, wé is literally I, and Thou. In like manner the 3rd plural or they, Tését, is undoubtedly a compound of Té = he, and Sé = Thou. The sé root has the tá particle added as a conjunct servile (sé-t,) according to a rule of universal operation in these tongues. Té is extant in Mantchu in the sense of He. It has the rá particle suffixed and harmonised in its vowel to the vowel of the root (téré,) also according to an universal rule governing these particles; and Sé, in the sense of Thou, is likewise extant, as Sí in Mantchu, as Sé in Turki; as Sá in some one of its phases, in short, (Sá, Sé, Sí, Só, Sú) in 20 of these tongues. Therefore Té-sé-t, or They, is, literally, He and Thou; and the whole of the three plurals are constructed upon precisely the same principle thus:

Mou-sé, = we, = I and Thou.

Sou-wé, = ye, = Thou and He.

Té-sé-t, = They, = He and Thou.

In like manner the Mongolian plurals Bi-dá, Tá, and Té-dé-t, might be analysed by means of the Tibetan demonstratives Dí and Dé with their analogues in allied tongues; and shown to be nothing more than reiterate pronouns of the singular number, and also that the Dá Dé, is no more a plural sign than the third phase of this particle or Dou (Dá, Dé, Dí, Dó) is a dative sign though widely as erroneously so regarded (just as De Coros regards the equivalent ra,* particle), wit-

* De Coros, pursuant to his view of the rá particle, as a dative case sign, translates Namgar in one instance and another, to Heaven. Now, Nam is the Sun, and Kha vel gá is place; and that the ra suffix only emphasises the sense of Khá vel Gá may be shown by a familiar pair of Examples. Gár vel Gáro and Takla-khár

ness T sé-do, to the earth, Ko-dá, to the foot, &c., in the Caucasian group, according to Vater. In truth, the Dá particle is in these latter instances a servile, not a radical, as is the sé before given; but apparently neither radical nor servile can be regarded in strictness as a declensional sign, of case or of number. Nor in the great majority of these tongues from Caucasus to Oceanica do these or the other particles* ordinarily fulfil the necessary conditions of such a sign, with the scant and obvious exceptions before noted. The Sá radical and the dá servile are both alike particles and as such subject to the laws regulating particles according to which all their alleged anomalies in either character can be explained, including not only every vocalic change, incident to them in both capacities alike, but also that substitution whereby they interchange functions and the root becomes a servile, or the servile, a root. Thus, for example, the sé particle is undoubtedly a root in the instances cited above; and it is as undoubtedly a servile in the Magar tongue wherein I'-sé means this, and O'-sé, that; í and ó being the near and remote demonstratives, with sé as a servile affix, answering exactly to the Georgian S, in í-s, he. Compare Circassian í with Georgian í-s, and the servile and equivalent character of the Sa suffix in these instances drawn from the Magyar and Georgian tongues will be at once apparent, and it will be also perceived how the alleged plural sense is here neither admissible nor possible, though the particle be assuredly the identical one to which in the Mantchu tongue the plural quality is attributed.

In explaining the Mantchu pronouns I have included almost all that need be said of the Circassian 3rd personal singular, or ú í, with its change to t' conjunct, as in t-ab, his father.

If we consider the ú, the I, and the T, as all radicals, we may yet find numerous equivalents for each in that sense; and if, again, we regard the t' as a servile superseding the radical úí, or wí, we may

are the names of two well known places in Nari, Gár meaning *the place* or fort, or head-quarters of its district; and Takla-khár, *the place*, or fort, or Sadr, of Takla. Again the 13th divisions of the spire of a Chaitya are called Chuksum-khár in Tibetan, = triyodas bhuvan in Sanscrit, i. e., *the 13th mansion*.

* The chá suffix in Ma-ch, we, Osetic, is called a plural sign. What is it in Sa-ch, earth? Probably what it is in A-ch, one, Circassian, viz., a servile with the usual differential function.

find abundant instances of such supersession alike among the Caucasian and the Mongolian tongues, as Má, Ma-fa, Fá, fire ; Bí, Dí-bi, Dí, skin ; Sá, Bá-sá, Bá, Cow ; and many more for which I must refer to the forthcoming analysed list of vocables.

With regard to Mongolian equivalents for the radicals U', I' and Ta, in the sense of He, the 3rd personal, the subjoined enumeration must suffice at present.

U', Circassian, = ú in Garo ; ú in Sontal ; O' (óé) in Magyar ; O' in Ouigur and Turki ; Wó in Newari ; Wá in Gyárúng, in Dhimali* and in Tungluh. I', Circassian, = I', in Mantchu ; I' in Sontal ; I', in Burmese, (this) ; E', in Magyar (O'é) ; E', in Kalmak ; E', in Lazig ; I'-s, in Georgian ; I'-sé in Magar ; I'-tu in Tagalan. Tá Circassian, = Té, in Mongol ; Té, in Mantchu ; Tá, in Esthonian ; Tá, in Chinese ; Thá, in Gyami ; Thí, in Gurung ; Thé, in Murmi ; Thú, in Burmese.

If, again, we take the Circassian ú í as one root and word, we have parallels for it in the Magyar óé, similarly taken, and in all the wá roots should we read wí, (w for ú).

With regard to the Gyárúng wa tú, which I have compared with the Circassian ú í changing in composition to tá, it is very important to observe that if wa tú and ú í be considered as compounds of two synonymous roots, according to the above detailed exposition of

* The perfect agreement of the Circassian and Dhimali in regard to the singular of the 3rd personal, ú being he, in both tongues, renders the proximate agreement of the perplexing plural, ú-bert and ú-bal, very interesting. I have tried the analysis in several ways but have not succeeded to my own satisfaction : but I submit the following.

U'-ba-rt = they = he and he ; one he being the ú above elucidated, and the other, a synonymous bá, bé, bí, root such as Bí actually is in Bodo : rt, servile ; the ra and ta suffixes conjunct.

U'-ba-l = they = he and he, as before. The juxtaposition of the Bodo and Dhimal tribes renders the adoption of the Bí root from Bodo likely in this instance.

It is however a word and root widely diffused and used as a noun and pronoun also. Final I', servile. — The Snanic Al, he ; and the Ouigur and Turki Ol, he and Ol-ar, they, are very suggestive, as also the Turkish and Ouigur Bí, and the Sokpo Bú in Abú, with all the numerous words for man having the Bí root, as Bi-shi, juvenis, alike in Turki and in Bodo. Nominal and pronominal roots are so apt to coincide that I have a long list of coincident roots for Ego = Homo : for instance the Mi root, and Ta root and Sa root, and Ba root.

roots, then that such reiterated pronouns are completely conformable to the genius of these tongues, and as such harmonise perfectly with the preceding exposition of the plurals. These tongues in fact revel in cumulation pronominal and nominal, varying as to the exact applications of the emphasized or reiterated pronouns,* but preserving a general overruling similitude, of which the following instance from a Himálayan and a Caucasian tongue is too singular to be omitted. In Georgian the *í* root for the 3rd personal singular, or he, becomes by such accretion, gradually augmenting, first *í-s*, and then, *í-ti-ná*; and in Magar the same root with the same sense (*ille iste*) becomes *í-sé* and *í-sé-ná*, according as more or less of emphasis and discrimination is needed. Again, the Georgian *ti*, in *iti na*, is the Burmese *thí*, in *I-thi*, a word compounded of two synonymes, both meaning this (*ille*), and conjointly equivalent precisely to *iséná* as well as *itina* in Magar and Georgian respectively. *Thú*, again, means he, the 3rd personal, in Burmese, and this word, which is merely another phase of the *thá* particle (*thá*, *thí*, *thú*, *thó*—which last signifies that, and is Tibetan)—brings us back to the Tagalan *í-tú* and the Gyárúng *wa-tú* every particle, whether used in a primary or secondary sense, taking the aspirate indifferently (*Mé*, *Mhé*, fire; *Ni*, *Nhí*, day; *ká*, *khá*, sky; et cæt., ad libitum).

Now, if we look again at the Gyárúng *wa tú* through the medium of the Malayan and Tagalan *í tú* and the Circassian *rí í* and *tá*,—all but the last equally involving a double pronominal root and single sense—we shall see in this identical composition and identical idiomatic use of the 3rd personal pronoun, illustrated on all sides as they are by Altaic, Himálayan and Indo-Chinese equivalents reproducing every form and phase of the roots, a marvellous proof of the affinity of all the tongues. But this is not all, for the Circassian *ú* and *I* commutable to *T* derives the highest and complete illustration from another and most interesting quarter, to wit the uncultivated Tamulian tongues of India amongst which the Sontal exhibits both *ú* and *I* for the third personal pronoun as well as their com-

* See *Mith. voce Turki*, I. 467 et seq. and *Essay on Koch, Bodo and Dhimal*, p. 120, and *De Coros' Grammar*, p. 65, *Crawfurd's Malayan Grammar*, *Phillips's Sontal Grammar*, and *Brown's Asam Grammar*.

mutation into T* whilst the Gondi has ú (w) similarly commutable. For the proof of these most remarkable co-incidences I refer the student to the works of Phillips and Driberg, merely observing in conclusion that it is but a sample of those analogies derivable from the same interesting quarter which I have already made good progress in the development of, and which when fully exhibited will go far to confirm the conviction that the Tartaric family is one and indivisible from the Caucasus to the Pacific.

The prospect of a reünion of all the Tartars suggests the consideration of a fitting designation for the whole; and, whatever my leaning towards the term Scythian† from veneration for the father of history who first introduced this mighty herd to our view, I prefer upon the whole the more familiar appellation Tartar, 1st, because it has a sense as ample as our present requirement, in which respect it has no advantage over Scythian—2nd, because it has an etymological significance thoroughly indigenous and in the highest degree appropriate, as well with reference to the structure of those tongues by the dissection of which we have come at a knowledge of the whole scope of Tartar affinities, as with regard to that characteristic idiom according to which the name of a tribe is the name of our species. Tá means man in a score of extant tongues; and Tá designates numerous extant tribes stretching from the Altai to the gulf of Siam, whilst the same or equivalent names prevail throughout the Mongolian countries and in Caucasus;‡ and, lastly, the reiteration whereby

* The transposableness of the particles in these tongues has been already stated, and abundantly proved. With this hint look at the following wonderful sample of analogous structure, t-ab, his father, in Circassian; apa-t, his father, in Sontal. It is needless almost to add that the word for father is ab in the former tongue; apa in the latter. Not one of Bopp's celebrated Arian affinities surpasses the above in beauty and interest.

† Essay on Koch, Bodo and Dhimal, Preface, pages 8—9, where the reader may see that seven years ago I had a strong presentiment of what I now hope to demonstrate.

‡ Tshá-ri, Tshé-tshé-nsh, &c. come from the tá and sá roots for man, and are seen in similar combination, being synonymes, in the Chinese and Georgian Tsé meaning man, whereof Tsé-s, is a diminutive. The Chinese call the Tartars indifferently Thá-thá and Thá-tsé, and so do the Newars of Nepal, whilst Ta-i, Ta-i-mó, Ta i-lúng, Ta-i-né, Ta-i-yé, names of tribes from Assam to the Ocean, are

the 'Tá, or Zenghis' clansmen, came to be called Tá-tá, vel Thá-thá, (men pre-eminently, quasi Allemanni) is a normal sample of one of the chief constructive principles of these tongues. Wherefore I would abide by that medieval designation by which all the races beyond the confines of Europe have been known to Europe in modern times, and which from and after the middle ages superseded the classical term Scythian—a term of as wide import as the other and so far equally fitting, but now laid aside, and never so etymologically just as Tartar, the very r of which word, though carped at by half-informed critics, is in fact thoroughly in accordance with the *jus et norma* of Tartaric speech, everywhere from Oceanic to the Caucasian region.

all not only Tá hut Tá-tá, since the second syllable is in all a synonyme, and therefore as equivalent as Tshé-tshé and Tá-tá which are reiterations. As instances, familiar to us in India, of a trihe-name signifying also man in the language of that trihe, I may mention, A-nam, Mru, K lun, Ka mi, Ku-mi, Kong, Lau, Mó-n, Mo-i, Bar-ma. These are simple. Mi-shi-mi, Mú-r-mi, &c. are compound. Occasionally, as in Burmese, the root may be obsolete in the human sense; hut it will always be found in its derivatives or in the proximate tongues, leaving the principle of gentile nomenclature indisputable. In Misshimi we have the Mi and Shi roots for man, the former, reiterated. In Múrmí we have the Mi root reiterated in different phases (Mú and Mí). In Burma, we have a third phase of the same root (má) with the Bá root and synonyme preceding it; and lest this etymology should startle my readers, I will add that this very word Barma means man in the Magar tongue, that is, in one of those Himálayan tongues whose close affinity to the Burmese language I have lately shown.

On a Geometrical Measurement of the distances from Crest to Crest of the Barometric Waves in a Cyclone.—By HENRY PIDDINGTON, President of Marine Courts.

The measurement of the pressure of the Barometric Column, whether arising from changes in its density or from actual variations in its height; such as the fish at the bottom of the sea must experience by the effect of every wave which rolls over them; we have possessed since the days of Torricelli and Pascal, and though, from our ignorance of the definite extent of the atmosphere and other causes, we can only express that pressure or vertical height by a conventional scale, which expression again though depending always on one fact, is different with different nations, we may still be said to have a measure, though an imperfect one, of the height of the atmospheric waves: assuming as we always do in using a Barometric measurement that we know and allow for all the causes which influence their density.

That these variations in the Barometric pressure also succeeded each other in the form of waves, at greater or less intervals of time, so as to be traced over large areas, has of late years been well known, and the attention of Meteorologists has been much directed to this research, of which an illustrious professor of science has justly said—"the great extent of country over which the accidental variations of the Barometer take place is one of their most striking features, and in a future and more advanced state of Meteorology, we may be able to draw the most interesting and important conclusions from the great atmospheric tidal waves which are thus perpetually traversing oceans and continents."*

We also knew generally, and from undoubted authority, that the Barometer both on the approach of, and during, Cyclones was subject to very remarkable oscillations, but hitherto we have had no Barometric measurements of their height, and though from their succession in time we of course inferred that their crests were at a certain dis-

* Professor Forbes' Report on Meteorology to British Association in 1832.

tance from each other in space, we had no sort of index as to what that distance might be. In the present paper I have, as will be seen from its title, the pleasure to announce an instance in which, by the aid of Cyclonology, the Barometric waves of a Cyclone during its passage have been, I think, accurately measured, both vertically by the Barometer scale, and horizontally in geographical miles, giving us thus, as in the beautiful instance of the *Charles Heddle's* Cyclone, a new insight into the internal economy of these wonderful and fearful phenomena, and, I hope for Meteorologists in general, a stepping stone of which we can only at present anticipate the advantage from its position and the authenticity of its data.

After a Cyclone from the 2nd to the 5th of May 1851, which raged principally between Trincomalee and Madras, extending to about 85° East Longitude—and which I have named “*The Fox's Cyclone*” from H. M. S. *Fox* having made very bad weather by getting too close in towards the centre before she bore up—I received from my friend Capt. Chas. Biden, Master Attendant at Madras, amongst a large collection of logs and other data some ten-minute readings of the Barometer at the Madras Observatory. This was what I had been long looking and hoping for from some quarter, knowing, as I did, to what it might lead us if a complete short series of Barometric observations in the track or neighbourhood of a Cyclone could be obtained, together with the necessary data for an accurate track of the Cyclone itself; and having written to Captain Biden on the subject, the Hon. Co.'s Astronomer, W. S. Jacobs, Esq. was good enough to furnish me with a complete table of his ten-minute readings extending from 8h. 41' A. M. on the 2nd May, to 11h. 41' on the 5th; and from these, combined with the track of the Cyclone which I was fortunately enable to trace very accurately, having no less than twenty-six logs and reports. (See Journal Vol. XXI. p. 283,) the accompanying Diagram which, it will be seen, shows both the vertical height on the Barometric scale, and the horizontal distance in miles and tenths from Crest to Crest of the Barometric waves in the Cyclone, has been constructed.

To understand the plate it will be necessary to observe—

1. That, as shewn in the Diagram A. which is from the Chart to the Memoir on this Cyclone, above quoted, emitting

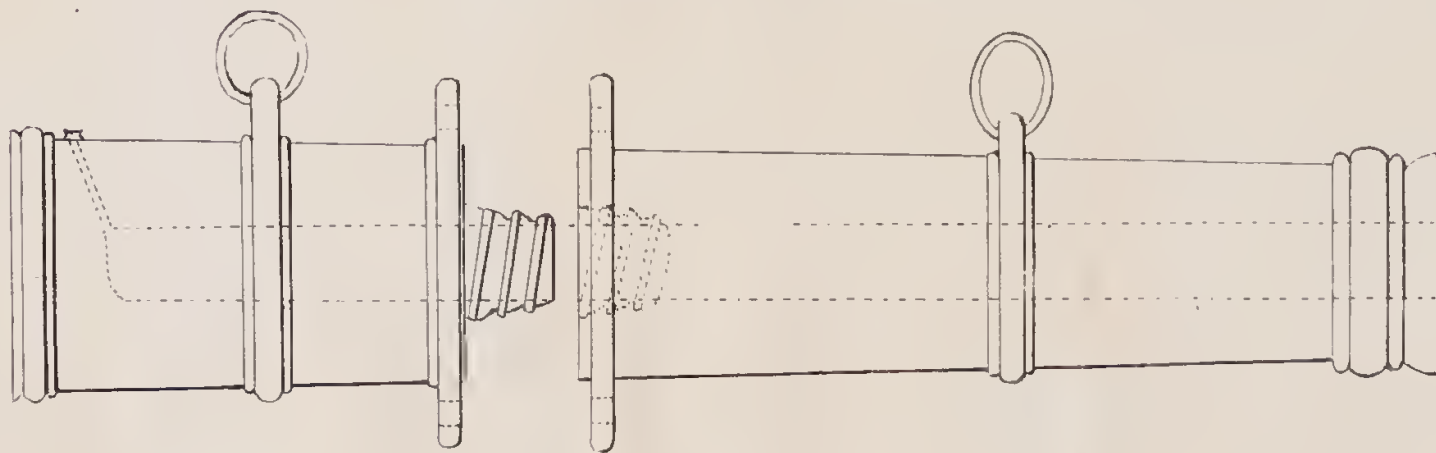
ELEVATION OF A WROUGHT IRON GUN IN TWO PORTIONS

From Burma

Presented to the Asiatic Society

By Major H. Fraser and Lieut. E. C. S. Williams

Bengal Engineers.

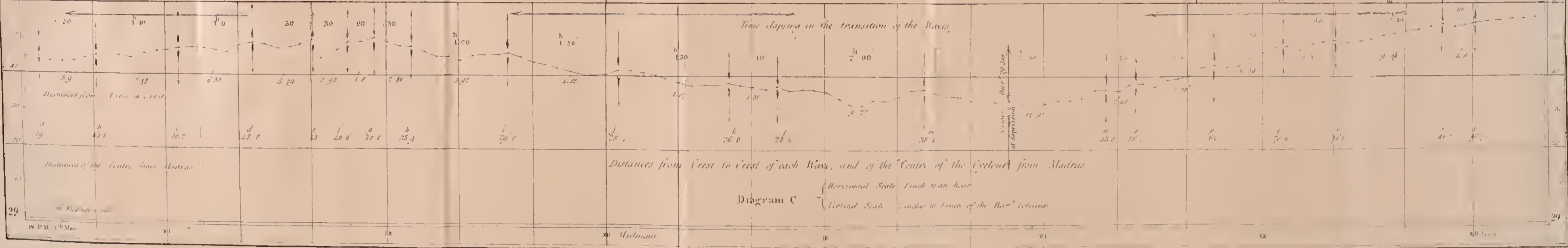
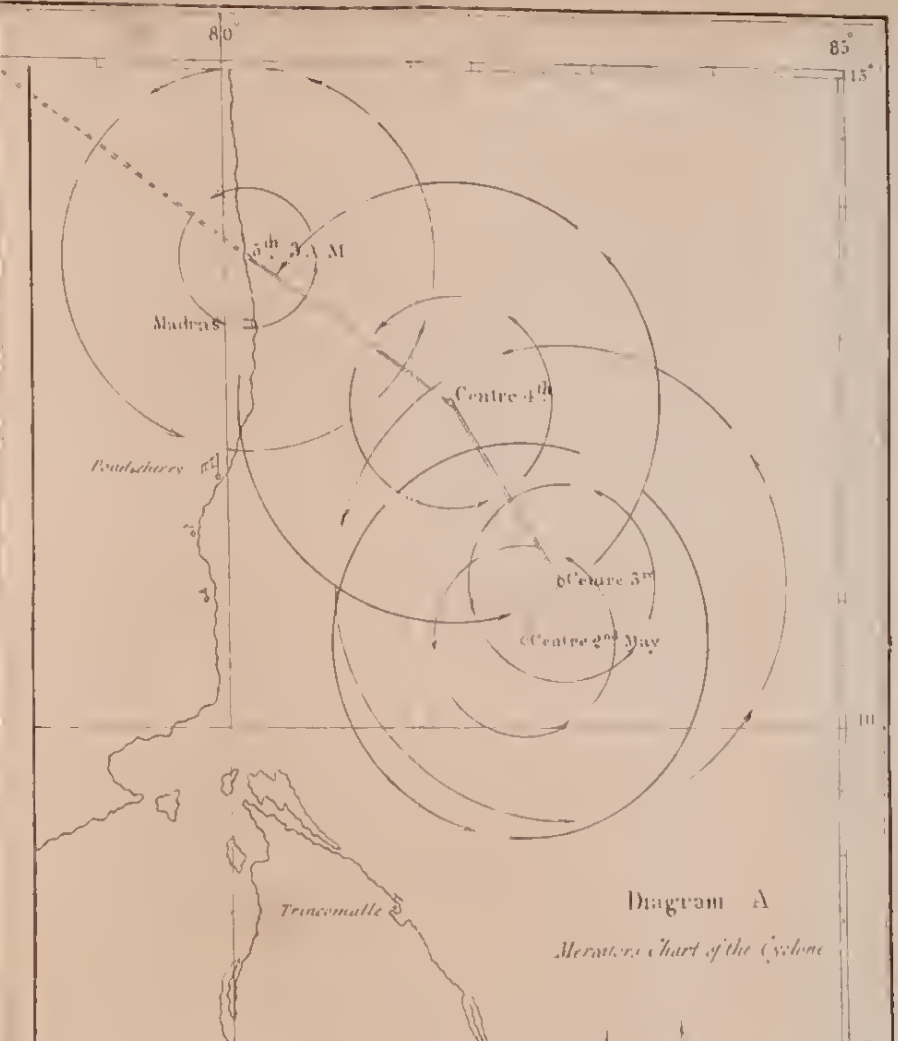
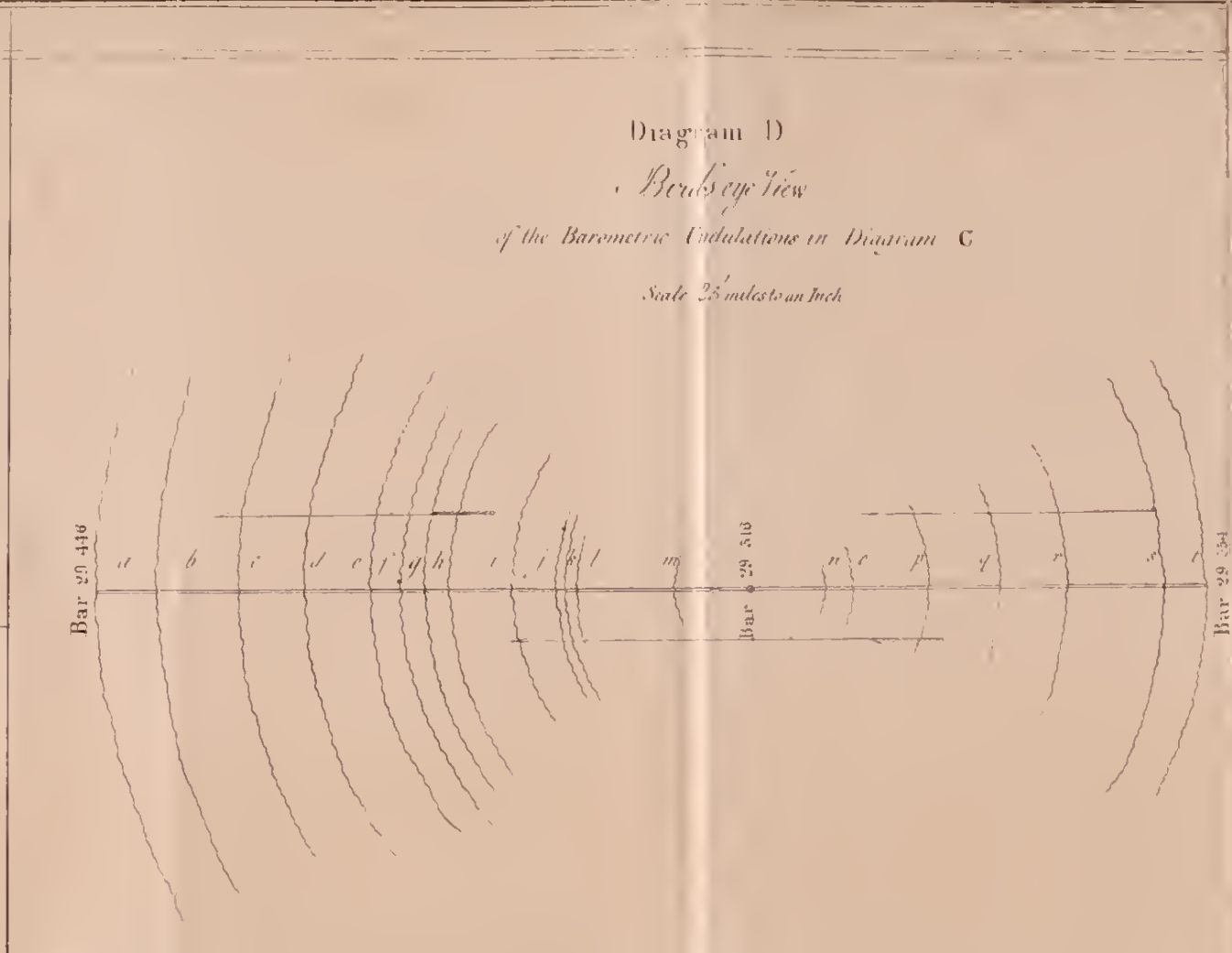
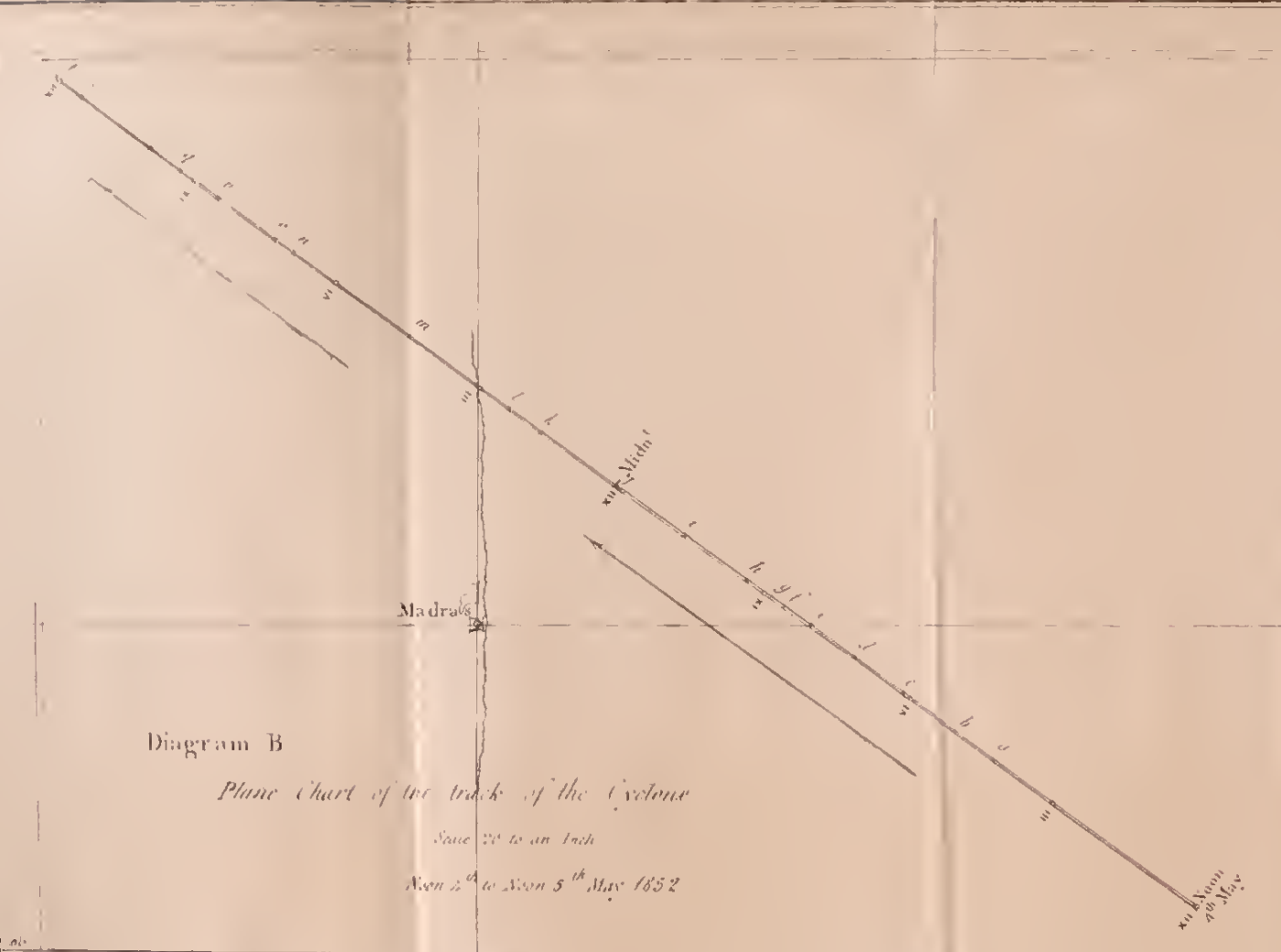


Reduced and Enlarged by E. J. L. L. L.

J. W. E. Baker Major.

Bengal Engineers

23 September 1852



only the ship's tracks, the Cyclone has been accurately tracked for the day between Noon of the 3rd and Noon of the 4th May, and to 3 A. M. of the 5th May, when its centre must have reached the shore about 30 miles to the Northward of Madras. We have unfortunately no inland reports beyond that point, so as to enable us to trace accurately the exact passage of the centre, and we have thus to *assume* that its course and rate of travelling were the same inland as they had been at sea, which I have done in this case—though there is usually some diminution of the rate of travelling on shore—from comparing the veering of the wind, and the rise of the Barometer with its previous fall.

2. That from the known extent of the Cyclone, as well as by the indications of the Barometer and Anemometer, the true wind-circles of the Cyclone do not appear to have reached Madras before 4h. 11' P. M. of the 4th, from which time the readings are projected on the Diagram C. The greatest depression of the Barometer was 29.316 occurring at 5h. 36' A. M. of the 5th May, when the centre of the Cyclone bore about No. $21^{\circ} 30'$ West, distant 47 miles from the Madras Observatory.

3. The course of the Cyclone at sea being accurately known, and consequently the distances of its centre from Madras at any given time, those distances are noted in Diagram C. at the different hours at which the various waves passed the Observatory. These distances are also marked on Diagram B. which is a Plane Chart enlarged from A. A is a copy of the Mercator's Chart to the Memoir on this Cyclone in which the ships tracks are omitted.

4. As the Cyclone did not advance directly towards Madras but passed to the N. East of it, each of the successive undulations shewn by the projection must have passed the Zenith of the Observatory at a different angle; so that the simple distance from Crest to Crest as shown by the advancing centre of the Cyclone would not be a direct transverse measurement at right angles to their course, but one more or less diagonal. The correction for this, which varies, as the sines of the angles, has been duly calculated, and the distances in the column of corrected distances are the true transverse ones.

5. A very steep wave will be remarked at $e-f$ (or 8 P. M. of the 4th May). This seems exactly analogous to the steep, and sudden

roller-like sea waves which I have noticed at p. 360 of my Horn Book as the *resultant* wave of an advancing or passing Cyclone.*

6. The centre of the Cyclone at Noon on the 4th May bore S. 70° East, 102 miles from Madras, and its course and distance to 3 A. M. of the 5th, or for 15 hours when it bore North of Madras was No. 55° West 114 miles, and the various distances given in the Table No. II. are those measured on the Plane Chart on which the positions of the centre at the times of the passage of the Crests of the waves are laid down. The distances from crest to crest of the undulations, and those from the flag-staff of Madras are the actual ones as measured at each successive interval on the Plane Chart, and for each of these again the correction above indicated has been calculated and applied.

7. The Cyclone was coming up from the S. E. b. E. or from the right to the left of the page, but the hours are naturally read from left to right. It will not then be forgotten that, according to the direction of the arrows, *a* is the advancing front of the Cyclone, and that the whole passage here shown is that of 19 hours 50 minutes or from 4.11 P. M. of the 4th to 24h. 1' of the 4th—5th May.

8. But of this it should be borne in mind that we have really but 10h. 10' of actual measurement of the Cyclone's track at sea, and that we have *assumed* its inland course and rate to have been the same, as above stated.

9. The Diagram D represents a Bird's-eye view of the whole of the undulations of the Cyclone, as we may conceive them, or waves analogous to them, to have existed at the time when the first of them *a* reached Madras, or when the centre passed the Meridian of that place. The regularity on the van or advancing portion of the Cyclone with the exception of *g* and *h*, and the grouping of the waves by twos and threes, as they felt the effect of the land (the Pulicat hills) are very remarkable.

10. The mean result of *the whole* of the measurements is as follows, i. e. that—

The mean Time of Transition of each wave is 1h. 7'.

* Our analogies must necessarily be drawn from what we know of the motions of waves in fluids, since we have assumed that the Barometric variations are waves of some kind. Of what medium we know not.

The mean distance in geographical miles from crest to crest of each wave is 5.91 miles.

But if we take only the means of the ten hours and ten minutes for which we have the actual track measured at sea, the means will then stand as follows :

Mean time of Transition of each wave 1h. 1'.

Mean distance from crest to crest of each wave 4.62 miles.

We may thus for the present say that—

1. In a Cyclone of average violence (for this was by no means an excessively violent one) travelling at the rate of 182.4 miles in 24h., or 7.6 miles per hour, there is a succession of aerial undulations affecting the Barometer to the average extent of 0.020 per hour of pressure, these being + or — according to the position of the centre, and the curve of the undulation as shewn in the Diagram.

2. That these variations of pressure occur at average intervals of 1h. 4', and that their crests are at a horizontal distance of about 5 miles from each other; the greatest horizontal distance being at 14.97 miles, and at the centre of the Cyclone, and the least at 1'.07 miles.

As an Appendix to this paper, and because, however carefully the original drawings are made, we cannot in India have them accurately lithographed, and the unequal stretching and drying of the paper again always deranges the most exact work in the printing. I give here

Table I. The Madras observations complete, as sent to me, for the time included in the Diagram C, i. e. from 4 P. M. on the 4th May to 1 A. M. on the 5th May, 1851, as being those from which the projection is made.

Table II. (2) The separate times at which the various undulations passed over Madras, with (3) the intervals of these times. (4) The heights the Barometer, and (5) their variations. (6) The distances of the centre from Madras at these times; (7) its bearing (8) the angles of variation of bearings. (9) Distance, and (10) the corrected distance in geographical miles from crest to crest of each aerial wave of the Cyclone.

TABLE I.—The Madras Observations for the time included in Diagram C.

Sunday 4th May, 1851.					Sunday 4th May, 1851.					Monday 5th May, 1851.				
Barometer.					Barometer.					Barometer.				
Time.	Height.	Ther.	Azinuth.	For.	Time.	Height.	Ther.	Azinuth.	Force.	Time.	Height.	Ther.	Azinuth.	Force.
P. M.					P. M.					A. M.				
4. 11	29.446	80.0	0		9. 31	29.464	80.0	326		2. 41	29.362	79.5	W. N. W. 292	
21	.432		0		41	.454	79.5	326		51	.362		W. N. W. 292	
31	.432		0	2.6	51	.458		326		3.	.358		W. by N. 281	2.8
41	.434	80.5	0		10. 1	.454		N. N. W. 337	1.2	11	.340		W. 270	
51	.412		0		11	.458		337		21	.320		W. 270	
5. 1	.452		0	0.4	21	.458		337		31	.323		270	
11	.452		0		31	.460		N. W. by N. 326		41	.336	79.5	270	
21	.452		0	2.5	41	.461	79.0	326		51	.330		270	
31	.446		0		51	.454		326		4.	.346		270	6.5
41	.458	80.0	0		11.	.440		N. W. 315	3.0	11	.364		270	
51	.464		0		11	.432		315		21	.367		270	
6. 11	.462		0	1.0	21	.424		315		31	.358	80.0	W. by S. 259	7.8
11	.470		0		31	.414		315		41	.347		0	
21	.470		0		41	.406	79.5	315		51	.347		0	8.0
31	.470		0		51	.402		315		5.	.332		0	
41	.466	80.5	N. by W. 349		A. M.	Monday 5th May, 1851.				6	.328		0	
51	.462		N. N. W. 337		0. 1	.402		315	3.0	11	.332		0	
7. 1	.480		N. W. by W. 326	1.3	11	.420		315		16	.339		0	
11	.484		326		21	.417		N. W. by W. 304		21	.330		0	
21	.480		N. N. W. 337		31	.412		304		26	.324		0	
31	.478		337		41	.400	79.5	304		31	.318		0	16.0
41	.476	80.5	337		51	.395		304		36	.316		0	15.6
51	.481		337		1.	.388		N. W. 315	2.7	41	.322	79.5	0	
8. 1	.492		N. by W. 349	2.3	11	.378		315		46	.324		0	
11	.440		N. N. W. 337		21	.379		315		51	.320		0	
21	.468		337		31	.377		315		56	.323		0	
31	.492		N. W. by N. 326		41	.380	79.5	315		6.	.328		0	11.0
41	.490	80.0	326		51	.377		315		6	.328		0	
51	.499		326		2.	.370		N. W. by W. 304	2.5	11	.332		0	
9. 1	.492		326	2.2	11	.366		304		21	.338		0	12.8
11	.480		326		21	.370		304		31	.342		W. S. W. 247	
21	.480		326		31	.365		304		41	.362	79.0	247	

Monday 5th May, 1851.

Time.		Barometer.		Wind.	
		Height.	Thermometer.	Azimuth.	Force.
A.	M.				
6.	51	29.365		247	
7.	1	.360		247	15.4
	11	.380		247	
	21	.380		S. W. by W. 236	
	31	.372		236	
	41	.392	78.0	236	
	51	.394		S. W. 225	
8.	1	.398		225	9.8
	11	.426		225	
	21	.430		225	
	31	.424		S. W. by S. 214	
	41	.432	77.2	214	
	51	.452		214	
9.	1	.466		S. W. by S. 214	6.6
	11	.481		214	
	21	.482		214	
	31	.476		214	
	41	.493	76.5	214	
	51	.498		214	
10.	1	.502		214	5.8
	11	.498		214	
	21	.502		214	
	31	.508		214	
	41	.518	77.5	214	
	51	.520		214	
11.	1	.526		214	4.4
	11	.532		214	
	21	.542		214	
	31	.547		214	
	41	.540	78.6	214	
	51	.540		214	
P.	M.				
0.	1	.554		214	3.2
	11	.554		214	
	21	.556		214	
	31	.558		S. S. W. 202	
	41	.560	78.5	202	
	51	.558		202	
1.	1	.552		202	2.4
	11	.550		202	
	21	.554		202	
	31	.554		202	

TABLE II.

Table of Times, Barometrical Variations, Distances of the Centre from Madras, Angles of Bearing, and Distances and corrected Distances from Crest to Crest of each Wave of the Cyclone.

1	2	3	4	5	6	7	8	9	10
References.	Time of passage over Madras.	Intervals of Time.	Height of Barometer 4th May.	Variation of Barometer.	Distance from Madras Miles.	Bearing from Madras.	Angles of Variation.	Distance from Crest to Crest of Waves Miles.	Corrected Distance Miles.
a	h. 4.11 P. M.	h. 0.50	29.446		69.0	S. 75.45 E.	°	5.9	5.9
b	5.1		.452	+ .006	63.1	78.10	2.25	7.88	7.88
c	6.11	1.10	.470	+ .018	55.2	82.00	3.50	6.4	6.38
d	7.11	1.00	.484	+ .014	48.8	S. 86.00 E.	4.00	5.8	5.79
e	8.1	0.50	.492	+ .008	43.0	N. 89.30 E.	3.30	2.94	2.93
f	8.31	0.30	.492	.000	40.6	86.15	3.15	1.80	1.80
g	8.51	0.20	.499	+ .007	38.8	84.30	1.45	2.9	2.80
h	9.21	0.30	.480	— .019	35.9	80.30	4.00	6.1	5.92
i	10.41	1.20	.464	— .016	29.8	66.30	14.00	4.40	4.12
j	12.11	1.30	.420	— .044	25.4	45.30	21.00	1.20	1.07
k	1.41 A M	1.30	.380	— .040	26.6	19.00	26.30	1.40	1.38
l	2.21	0.40	.370	— .010	28.4	N. 10.00 E.	9.00	10.00	9.27
m	4.21	2.00	.367	— .003	38.4	N. 13.00 W.	23.00	15.40	14.97
n	6.51	2.30	.365	— .002	53.8	26.45	13.45	2.4	2.40
o	7.16	0.25	.330	+ .015	56.2	28.00	1.15	7.8	7.78
p	8.21	1.5	.430	+ .050	64.0	31.45	3.45	6.6	6.59
q	9.15	0.55	.481	+ .051	70.6	34.00	2.15	6.4	6.4
r	10.1	0.45	.502	+ .021	76.1	35.00	1.00	9.7	9.69
s	11.31	1.30	.547	+ .045	86.7	38.00	3.00	4.0	4.00
t	12.1	0.30	.554	+ .007	90.7	N. 39.00 W.	1.00		

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,

FOR JANUARY, 1853.

The Annual General Meeting of the Society adjourned under Bye-Law 59 was held on the 19th January 1853, in the Society's Museum at half-past 8 p. m.

Sir James Colville, Kt. President, in the chair.

The proceedings of the December meeting having been read and confirmed, the Secretary read the following Report.

REPORT.

In laying on the table the accounts for the past year, the Council have the pleasure to call attention to the generally improving character of the state of the Society's affairs.

The Annual Report for 1851 held out the prospect of the Society's finances being re-established on a healthy footing in the course of the year just elapsed, and this prospect has been quite realized, as the accounts now on the table will show.

The Society has lost 2 members by death and 4 by withdrawal during the year. Mr. W. Mackintosh died in England, and the loss of Mr. H. W. Torrens in August last was the occasion of a resolution which will be fresh in the recollection of all present.

The list moreover of Honorary Members has lost the name of a distinguished scholar, that of Eugène Burnouf.

The accessions during the year have however been more numerous than the losses, 10 new members have been elected, so that the Society now numbers 139 members, of whom 17 only are absent from India.

The gross Receipts and Disbursements of the Society in the course of the year were as follows :—

RECEIPTS.				DISBURSEMENTS.			
Contributions,	6,764	12	0				
Library including Society's Oriental and other pub- lications,	1,652	11	0	2,892	14	4	
Journal,	1,074	4	0	4,052	1	6	
Mnseum including Go- vernment Grants,	7,369	1	0	7,905	3	3	
Building,.....	0	0	0	296	12	0	
Secretary's Office,	2	1	0	1,778	4	9	
Deposits,.....	130	0	0	72	8	0	
Miscellaneous,	34	5	6	762	9	0	
Total,...	17,027	2	6	17,760	4	10	
Balance of 1851,.....	3,481	9	1				
	20,508	11	7				
In hands of London Agent				Cash in hand including bal. in London			
£101-8 or at 2s.	1,017	13	4	Agent's hand.	3,538	14	7
				Ineff. Bal.	227	5	6
	21,526	8	11		21,526	8	11

This Statement is intended to show the whole income and expenditure including the Government Grants, but the heads are so arranged as to distinguish the Society's own resources and the charges which they were required to meet.

The outstandings continue large, amounting to Rs. 14,092-6-9, and the Finance Committee have not yet succeeded in determining the character of all the items with sufficient precision to enable them to remove from the accounts what is irrecoverable. It is believed, however, that not more than Rs. 4,500 of this sum will have to be given up; a very large proportion consists of current contributions which are certain of realization during the next quarter.

The liabilities amount only to Rs. 3,384-1-10. This estimate provides for the payment of Book-sellers and Printer's Bills, and every contingent charge for the year which may yet be due. The amount, it will be seen, falls short of the Cash balance now in hand.

The Council think therefore there is room to congratulate the Society on its having recovered altogether from the remaining embarrassments which were noticed in the Annual Report for 1851.

The average monthly expenditure of the past year has exceeded the average monthly income by 62 Rs. being 868 Rs. against 806 Rs., but the detailed accounts will show that the whole cost of printing A. say 1400 out of the 7 Nos. of the Journal for 1851, (A.) the balance the 1961 Rs. of the printer's bill for Mr. Blyth's Bird Catalogue, (B.) and the removal from the list of the Society's liabilities of heavy items (C.) due to the late Mr. Torrens and other members, are among the charges; deducting the aggregate of these as by marginal Memo. the legitimate charges of the year will not exhibit a higher monthly average than 578 Rs.

The Council think that the following may be taken as a fair estimate of the probable income and expenditure of the ensuing year.

INCOME.

Contributions from 118 resident Members,	7,552	0	0
Government Grants,	7,368	0	0
Journal, 80 Subscribers and Miscellaneous sale,	1,100	0	0
Library and Sale of Society's publications,	1,600	0	0
	<hr/>		
	16,620	0	0

EXPENDITURE.

General Establishment including Secretary's Office,...	1,470	0	0
Museum Establishment and Contingencies,	7,920	0	0
Journal, say 8 Nos.,	1,700	0	0
Library,	2,236	0	0
Miscellaneous, including Building, &c.	1,200	0	0
	<hr/>		
	14,526	0	0

The income from the Sale of Oriental publications is here perhaps under-rated. The gradual improvement of this branch of the Society's resources will be best seen from the following memo.

Sales in 1843	696	8	0
„ 1844	224	4	9
„ 1845	1,047	7	3
„ 1846	777	7	3
„ 1847	917	8	0

„	1848	.....	1,077	10	6
„	1849	.....	1,042	3	3
„	1850	.....	1,097	14	5
„	1851	.....	1,339	6	6
„	1852	.....	1,791	8	0

It should be remembered that the Stock on hand from which these supplies are derived is considerable, being valued at Rs. 17,242, exclusive of the Stock of Bibliotheca Indica, which may at its present selling price be estimated at Rs. 14,469.

LIBRARY.

The number of books added to the Library during the year 1852, amounts to 219 volumes. Of these 43 volumes, including Johnston's Physical Atlas, Layard's Remains of Nineveh, Fergusson's Illustrations of Indian Architecture, Ghasaley's Ohia ul Alum (MS.) and several other valuable works have been purchased at a cost of nearly 800 Rs., the remaining 176 volumes are donations from authors and learned Societies, and include works also of considerable value.

A new Catalogue of the Library is nearly ready, and will, it is believed, be sent to the press by the middle of February next.

The estimate of the current year's expenditure above given provides for additional purchases of books to the amount of Rs. 1000.

MUSEUM.

Several valuable additions have been made to this Department during the year now closing.

The coin cabinet has been re-arranged, many of the silver and gold coins having been accurately labelled during the short stay in Calcutta of Mr. E. Thomas, who kindly offered his assistance. A classified catalogue of the coins is in progress and will be, it is hoped, soon completed.

The Council have again to record their satisfaction with the two Curators and with the Librarian, whose best attention has throughout been given to their respective Departments.

SECRETARY'S OFFICE.

The arrears of accounts and other business in this Department have been brought up by means of extra assistance.

ORIENTAL FUND.

The Bibliotheca Indica has received an accession of eight new numbers. Six of these contain Sanscrit texts and Translations (1), and of the remaining two Numbers, one is in Arabic (2) and the other Persian (3). It was proposed also to print the History of Animals by Damyry, but though six copies of the work had been obtained from various quarters, it was found on comparing them and correcting the text that none was sufficiently correct to enable the editor to proceed with the labour.

The prospect of the Bibliotheca for this year are encouraging. Two new contributors, Dr. Ballantyne and Mr. Hall of Benares, are engaged in editing, for this work, the Sāñkhya Pravachana Bhāshya, and their recent proposal to edit the Sutras of all the six Darśanas is now under consideration.

In addition to the books of which parts have been printed, a new work of great importance would have been commenced two months ago, had not the Printer's hands been already fully occupied; this work is an Arabic Dictionary of the technical terms used in various sciences. It is as large as the Kāmus, and it is intended to print it in the same form.

Two works, moreover, the Chaitanya-chandrodaya Nāṭaka and an English translation of the Chhāndogya Upanishad of the Sāma Veda, are being edited by the Society's Librarian, Bābu Rājendralāl Mitra, and others are in progress under the auspices of Drs. Roer and Ballantyne. In short, the coming year's income added to the amount, viz. Rs. 9,513-10-10, now at credit of the Oriental Fund, will be insufficient to meet the charges for the undertakings already on foot.

(1) Dr. Röer has edited Naishada Charita text, Fas. 2, 3 and 4, Brihad Aranyaka Upanishad, English Translation, Fas. 2; Several Upanishads, English Translations, Fas. 1; and Sahitya Darpana, text Fas. 2. Dr. Ballantyne has edited an English Translation of the last mentioned Number.

(2) Soyúty Itqānfý, fy 'olúm al-Qoran, edited by Mowlawies Basheerooddeen and Noorool Haqq, Fas. 1.

(3) Sikandar-namah, edited by Dr. A. Sprenger and Agha Moḥammad Shooshtaree, Fas. 1.

The liabilities of the Fund may be classified as follows :—

Due for works published altogether or in part, ...Rs.	8,890	0	0
Probable cost of work now in the Press,.....	3,600	0	0
Ditto ditto in progress of editing for publication,.....	5,880	0	0

Total Rs. 18,370 0 0

The Report having been read, it was proposed by Mr. Woodrow and seconded by Babu Gyanendro Mohun Tagore, that it be received and adopted, and the proposal being put to the vote was carried unanimously.

The meeting then proceeded to the election of office-bearers for the current year, and appointed Mr. Woodrow and Babu Gyanendro Mohun Tagore scrutineers, who after examining the lists declared the following to be the result of the Ballot.

PRESIDENT.

Sir James W. Colvile, Kt.

VICE PRESIDENTS.

W. B. Jackson, Esq.

J. R. Colvin, Esq.

Babu Ramgopal Ghose.

COUNCIL.

C. Allen, Esq.

Dr. H. Falconer.

C. Beadon, Esq.

Major W. E. Baker.

Captain H. E. L. Thuillier.

Rev. W. Kay.

Major J. S. Banks.

H. Woodrow, Esq.

H. Walker, Esq.

SECRETARIES.

Dr. A. Sprenger.

A. Grote, Esq.

Read and confirmed,

2nd February, 1853.

(Signed) J. W. COLVILE.

ABSTRACT STATEMENT
OF
RECEIPTS AND DISBURSEMENTS
OF THE
ASIATIC SOCIETY,
FOR
THE YEAR, 1852.

Dr. *Abstract Statement of Receipts and Disbursements of the*

1852. RECEIPTS.

To MUSEUM.

Received from the General Treasury, amount of Government allowance authorized by the Court of Directors for the services of a Curator, from December, 1851, to November, 1852, at 250 Rs. per mensem,	3,000	0	0
Ditto for the preparation of Specimens of Natural History, from ditto ditto, at 50 Rs. per mensem,	600	0	0
	<hr/>	3,600	0 0

To MUSEUM OF ECONOMIC GEOLOGY.

Received from the General Treasury, amount of allowance authorized by the Court of Directors for the services of a Joint Curator, from December, 1851, to November, 1852, being 12 months, at 250 Rs. per mensem, ..	3,000	0	0
Ditto ditto for Establishment and Contingencies, from ditto to ditto, at 64 Rs. per mensem, ..	768	0	0
Ditto from Issurehunder Mistry's salary for 4 days, his services not having been entertained for that period in the month of September,	1	1	0
	<hr/>	3,769	1 0

To CONTRIBUTION AND ADMISSION FEES.

Received from the Members, amount of quarterly Contributions,	6,373	1	3
Ditto ditto admission Fees,	384	0	0
Ditto ditto in advance,	7	10	9
	<hr/>	6,764	12 0

To LIBRARY, INCLUDING SALES OF ORIENTAL PUBLICATIONS.

Received from Babu Rajendralal Mittra, Librarian and Assistant Secretary, by sale of Miscellaneous Books from January to December, 1852,	1,310	11	0
Ditto from Major M. Kittoe, per sale of Books, at Benares,	308	0	0
Ditto by sale of Bibliotheca Indica, sold at the Library, including Subscription to ditto, ..	34	0	0
	<hr/>	1,652	11 0

To JOURNAL.

Received by sale of the Society's Journal, and Subscription to ditto from January to December, 1852,	1,074	4	0
	<hr/>	16,860	12 0
Carried over,..			

Asiatic Society, from the 1st of Jan. to 31st of Dec. 1852.

Cr.

1852.

DISBURSEMENTS.

By MUSEUM.

Paid Mr. Blyth's Salary as Curator, from December, 1851, to November, 1852, being 12 months, at 250 Rs. per mensem, ..	3,000	0	0
Ditto for house-rent from ditto to ditto at 40 Rs. a month, ..	480	0	0
Ditto Establishment at 45 Rs. per mensem, ..	540	0	0
Ditto Freight, ..	17	0	0
Ditto Charges for repairing a thatched roof of the Taxidermist's Room, ..	4	8	6
Ditto Contingencies for preparing specimens of Natural History up to September, including extra allowance for fixing in position the jaw-bones of a whale, ..	219	0	3
		4,260	8 9

By MUSEUM OF ECONOMIC GEOLOGY.

Paid Mr. H. Piddington's Salary as Joint Curator, from December, 1851, to November, 1852, being 12 months, at 250 Rs. per mensem, ..	3,000	0	0
Ditto Establishment from ditto to ditto at 35 Rs. per mensem, ..	420	0	0
Ditto Rev. J. Thomas for printing 50 copies of "Papers, being Geological, Mineralogical and Analysis," ..	1	8	0
Ditto Contingencies, ..	220	13	9
		3,642	5 9

By MUSEUM OF MINERALOGY AND GEOLOGY.

Paid Mr. H. Piddington, Curator, for Sundry Contingencies, ..	2	4	9
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By LIBRARY.

Paid Babu Rajendralal Mittra's Salary from December, 1851, to November, 1852, at 70 Rs. per month, ..	840	0	0
Ditto Establishment, at 8 per ditto, ..	96	0	0
Ditto Contingencies and Stationery, &c. ..	71	4	9
Ditto for binding Books and Varnishing Maps, ..	289	14	0
Ditto for Purchase of Books, ..	536	1	0
Ditto Freight for books received from Europe and for despatch of ditto to ditto, ..	42	0	0
Ditto for Extra Writer for copying the Catalogue, ..	31	2	1
Ditto for Book-shelves, ..	6	0	0
Ditto for printing 200 copies, Catalogue of Birds, including binding-charges, ..	971	1	0
Ditto to the Registrar of the Government Boat-Office, Freight for sundry cases of books despatched to Benares, ..	12	7	6
		2,895	14 4

Carried over,.. 10,801 1 7

Brought forward, Co.'s Rs. 16,860 12 0

To MISCELLANEOUS.

Received from Capt. Thuillier, amount proceeds of old furniture sold to him from the Library,	16	0	0	
Ditto from the Government of India, the amount of charges incurred in packing and shipping sundry sculptures,	16	4	6	
Ditto from Babu Rajendralal Mittra, Librarian, freight and postage on account of him,	2	1	0	
	<hr/>			34 5 6

To DEPOSIT.

Received from B. H. Hodgson, Esq. on account of printing Gally-slips of his articles on Mongolian Vocabularies,	100	0	0	
Ditto from Lieut. Raverty. on account of transcribing Pushtu MSS. for him,	30	0	0	
	<hr/>			130 0 0

To SECRETARY'S OFFICE.

Received (by transfer) Postage paid on 31st August, 1852, on account of Babu Rajendralal Mittra and charged under this head,	2	1	0
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 Carried over,.. 17,027 2 6

Brought forward, Co.'s Rs. 10,801 1 7

BY JOURNAL.

Paid Rev. J. Thomas, Printer of the Baptist Mission Press, for printing Journal, No. I. of 1851 to No. III. of 1852,	1,961	0	0
Paid Sundry Draftsmen, Engravers and Lithographers for drawing, engraving, lithographing and colouring plates for Journal, ..	519	5	6
Ditto ditto for extra copies and paper for plates, ..	669	14	6
Ditto Agent of P. and O. S. Navigation Co. freight for despatching the Journal to Europe,	90	1	0
Ditto Contingencies,	37	12	6
Ditto H. Torrens, Esq., Balance of Account for the purchase of a stock of old Journals, ..	774	0	0
	<hr/>	4,052	1 6

BY BUILDING.

Paid Rohim Mistry for repairing a closet and spreading khoah on the Society's compound, ..	36	6	0
Ditto Ramdhone Mistry for repairing a window, ..	7	0	0
Ditto Glazier for supplying glass for window-frames,	17	2	0
Ditto R. C. Ghose, Collector of Assessment, assessment for the premises of the Asiatic Society, from August, 1851 to September, 1852, ..	236	4	0
	<hr/>	296	12 0

BY SECRETARY'S OFFICE.

Paid General Establishment from December, 1851, to November, 1852, at Rs. 86-8 per mensem, ..	1,038	0	0
Ditto Establishment from December, 1851, to November, 1852, at 42 Rs. per mensem, ..	504	0	0
Ditto Stationery, &c,	70	12	0
Ditto Postage,	84	4	0
Ditto Petty Charges,	21	4	6
Ditto Extra Writer,	42	10	9
Ditto Contingencies,	14	5	6
	<hr/>	1,775	4 9

BY DEPOSITS.

Paid Rev. J. Thomas, Printer of the Baptist Mission Press, for composing and setting up Mr. B. H. Hodgson's article, Nos. 1, 2, 3, ..	51	12	0
Ditto ditto for lithographing and drawing a Monk's head, ..	12	12	0
Ditto ditto by transfer for a copy of Bird Catalogue, sold to him, ..	4	0	0
	<hr/>	68	8 0
Ditto on account of Lieut. Raverty, for a ream of French Foolscap for copying Pushtu Books, ..	4	0	0
	<hr/>	72	8 0
Carried over,..	16,997	11	10

	Brought forward, Co.'s Rs.	17,027	2	6
TO BALANCE.				
As per Account closed on the 31st December, 1852,	..	3,481	9	1

Company's Rupees, .. 20,508 11 7

Errors and

Calcutta, Asiatic Society. }
the 1st Jan., 1853. }

Examined and found correct.

A. J. M. MILLS, }
 A. GROTE. } *Members of the Finance Committee.*

Brought forward, Co.'s Rs, 16,997 11 10

BY MISCELLANEOUS.

Paid charges for packing and shipping 10 boxes of sculpture,	16	4	6	
Ditto for Advertising Meeting of the Society,	45	8	0	
Ditto Mr. J. Chaunce for winding the clock of the Society,	25	0	0	
Ditto Sundry Contingent charges for Meeting, and oil for night-guard,	141	15	6	
Ditto tinman for a pair of Gate Lamps, &c.	8	8	0	
Ditto Rev. J. Thomas, for printing the Bye-laws of the Society on two different occasions,	180	0	0	
Ditto ditto for printing a Financial Report,	27	0	0	
Ditto Babu Rajendra Lall Mittra, postage and freight, for letters and parcels on his account on the 31st August, 1852,	2	1	0	
Ditto Sir James Colvile (by transfer) in part payment of the sum advanced by him on account of his contribution,.. ..	64	0	0	
Ditto ditto by ditto, as a loan,	158	8	0	
Ditto J. Muir. Esq. (by transfer) balance of his account,	45	12	0	
Ditto H. Torrens, Esq. (by transfer) on account,	48	0	0	
				762 9 0

BY BALANCE.

In the Bank of Bengal,	2,432	12	0	
Cash in hand,	88	5	3	
				2,521 1 3

BY INEFFICIENT BALANCE.

Paid freight on a case of books despatched to Allahabad, per Goomtee on account of R. N. Cust, Esq.	1	8	0	
Ditto ditto on account of H. Templeton, Esq.	1	8	0	
Balance on account of sundry advances,	224	5	6	
				227 5 6

Company's Rupees,.. 20,508 11 7

Omissions Excepted.

ISHANCHANDEA MAZUMDAR,
Accountant.

Dr.

The Oriental Publication Fund in

January 8th, 1852.—To Cash paid Establishment for the Custody of Oriental works for December last,	Rs.	42	0	0	
Ditto 22nd, Ditto Babu Isser Chunder Sarmana, Pundit for Babu Rajendra Lall Mittra, Lib., his salary for December last,		20	0	0	
Ditto ditto, Babu Rajendra Lall Mittra, Lib., Contingencies for December last,		0	8	6	
Ditto 30th, ditto Rev. K. M. Banerjea, Subscription for 200 copies of the Purana Sangraha No. 1 per Bill,		200	0	0	
Ditto ditto, Dr. E. Roer, Editor of the Bibliotheca Indica, his salary for Dec. last,		100	0	0	
Ditto ditto ditto Establishment for ditto,		35	0	0	
Ditto ditto ditto Contingencies for ditto,		22	10	0	
					420 2 6
February 5th, ditto Establishment for the custody of the Oriental works for Jan. last, ..		42	0	0	
Ditto ditto, ditto Babu R. L. Mittra, Lib., Contingencies for January last,		1	0	0	
Ditto 9th, ditto Dr. E. Roer, Editor of the Bibliotheca Indica, his salary for Jan. last,		100	0	0	
Ditto ditto, ditto Establishment for ditto,		35	0	0	
Ditto ditto, ditto Contingencies for ditto,		35	2	0	
					213 2 0
March 3rd, ditto Establishment for the custody of the Oriental works for Feb. last, ..		42	0	0	
Ditto ditto, ditto Babu Rajendra Lall Mittra, Lib., Contingencies for February last,		1	0	0	
Ditto 5th, ditto Dr. E. Roer, Editor of the Bibliotheca Indica, his salary for Feb. last,		100	0	0	
Ditto ditto, ditto Establishment for ditto,		35	0	0	
Ditto ditto, ditto Contingencies for ditto,		22	7	6	
					200 7 6
April 1st, ditto Establishment for the custody of the Oriental works for March last,		42	0	0	
Ditto 5th, ditto Shama Charana Sarmana for Sanserita MSS.,		45	0	0	
Ditto 6th, ditto Dr. E. Roer, his salary for March last,		100	0	0	
Ditto ditto, ditto Establishment for ditto,		35	0	0	
Ditto ditto, ditto Contingencies for ditto,		37	0	0	
					259 6 0
May 8th, ditto Establishment for the custody of the Oriental works for April last,		42	0	0	
Ditto 11th, ditto for binding Oriental works, per Bill,		24	0	0	
Ditto ditto, ditto for copying Persian and Arabic MSS. for publication in the Bibliotheca Indica,		30	10	6	
		96	10	6	
Carried over,...					1,093 2 0

*Account Current with the Asiatic Society.**Cr.*

Jan. 1st, 1852.—By Balance of Account closed and published down to the 31st Dec. 1851,..				
Company's Papers of the new 5 per cent. Loans deposited with the Government Agent,	5,500	0	0	
Ditto ditto, Cash in the Bank of Bengal,	1,272	8	3	
Ditto ditto, ditto in hand,	36	4	9	
				6,808 13 0
Ditto 21st ditto, By amount received from the General Treasury, being the monthly grant sanctioned by the Court of Directors for the month of December, 1851,	500	0	0	
Feb. 21st ditto, ditto ditto for Jan. 1852 last,	500	0	0	
March 19th ditto, ditto ditto for Feb. last,	500	0	0	
April 23rd ditto, ditto ditto for March last, ..	500	0	0	
May 1st ditto, ditto ditto for April last,	500	0	0	
June 22nd ditto, ditto ditto for May last,	500	0	0	
July 1st ditto, ditto ditto for June last,	500	0	0	
Ditto ditto received from Society's Cash on account of Cash short,	1	15	9	
Augt. 25th ditto, ditto ditto for July last,	500	0	0	
Sept. 22nd ditto, ditto ditto for Augt. last,	500	0	0	
Oct. 22d ditto, ditto ditto for Sept. last,	500	0	0	
Ditto 16th ditto, received from Asiatic So- ciety's Cash on account of Cash short,	0	2	3	
Nov. 18th ditto, ditto ditto for Oct. last,	500	0	0	
Ditto 30th ditto, Received from Asiatic So- ciety's Cash on account of Cash short,	7	12	3	
Dec. 22nd ditto, ditto ditto for Nov. last,	500	0	0	
				6,009 14

Carried over, 12,818 11 3

o 2

Brought forward, Co.'s Rs.			1,093	2	0
May 11th, 1852.—To Cash paid Dr. E. Roer,	96	10	6		
his salary for April last,	100	0	0		
Ditto ditto, ditto Establishment for ditto,	35	0	0		
Ditto ditto, ditto Contingencies for ditto,	23	14	0		
Ditto ditto, ditto for Yayur Veda per Bill of Exchange,	200	0	0		
			455	8	6
June 1st ditto, Establishment for the eustody of the Oriental Works for May last,	42	0	0		
Ditto ditto Babu Rajendra Lall Mittra, petty charges for May last, per Bill,	1	9	6		
Ditto 9th ditto, Dr. E. Roer, his salary for May last,	100	0	0		
Ditto ditto Establishment for ditto,	35	0	0		
Ditto ditto Contingeneies for ditto,	22	0	0		
Ditto ditto Sarietullah Duftry for binding Ori- ental Works, per Bill,	37	4	0		
Ditto ditto a ream of Serampore paper,	6	13	0		
Ditto ditto for Kharoäh eloth and Paste Board for binding Oriental Works,	18	3	0		
Ditto ditto for eopying Persian and Arabic MSS. for publication in the Bibliotheca In- dica,	13	4	0		
			276	1	6
July 1st ditto, Establishment for the custody of the Oriental Works for June last,	42	0	0		
Ditto 12th ditto, Dr. E. Roer, his salary for do.	100	0	0		
Ditto ditto Establishment for ditto,	35	0	0		
Ditto ditto Contingeneies for ditto,	22	8	0		
Ditto 13th Ditto, Rev. J. Thomas, for printing and supplying paper for 500 eopies of La- lita Vistara in Sanserita, p. 1 to 296=296 pp., at 2-3, per Bill,	647	8	0		
Ditto ditto for printing, &c. for 500 copies of Bibliotheca Indica, No. 37, being the Sahitya Darpana, by Dr. Ballantyne, p. 57 to 112= English matter, 56 pp., at Rs. 2-6 each,	133	0	0		
Ditto ditto p. 33 to 80 = Nagree matter 48 pp. at Rs. 2-3 each,	114	0	0		
Ditto ditto and for cover and doing up,	12	0	0		
Ditto ditto for printing, &c. for 500 eopies of Bibliotheca Indica, No. 38, p. 81 to 160 and list of eorrections, 2 pp. = 82 together with many eorreectons, at Rs. 2-6 each,	194	12	0		
Ditto ditto and for cover and doing up,	12	0	0		
Ditto ditto for ditto of ditto, No. 39, being the Uttara Naishada Charita, p. 1 to 96=96 pp. at Rs. 2-3 each,	210	0	0		
Ditto ditto for cover and doing up, ..	12	0	0		
			1,534	12	0
Carried over...			3,359	8	0

Brought forward, Co.'s Rs. 12,818 11 3

Carried over,... 12,818 11 3

Brought forward, Co.'s Rs. 3,359 8 0

August 3rd, 1852.—To Cash paid Establishment for the custody of Oriental works for July last,	42	0	0	
Ditto ditto ditto R. L. Mittra Lib. contingencies for ditto,	2	7	0	
Ditto 4th ditto, George F. Lackersteen for purchasing 8 Iron clamps with 32 cut screws, ..	35	0	0	
Ditto ditto ditto Society's Cash for balance of last month's Cash short,	1	15	9	
Ditto 19th Dr. E. Roer his salary for July last, ..	100	0	0	
Ditto ditto ditto Establishment for ditto,	35	0	0	
Ditto ditto ditto Contingencies for ditto,	22	11	0	
				239 1 9
September 1st ditto, To Moonshee Ashrutullah for purchasing Innam Ghazzaly's Ohya Olum complete in 1 Vol.,	90	0	0	
Ditto 8th ditto, J. C. McArthur, Supdt. Bishop's College Press for printing Bibliotheca Indica, ..	245	0	0	
Ditto do. Dr. E. Roer his salary for Aug. last, ..	100	0	0	
Ditto ditto ditto Establishment for ditto,	35	0	0	
Ditto ditto ditto Contingencies for ditto,	23	13	0	
Ditto ditto ditto Babu R. L. Mittra, his salary and Establishment for the custody of Oriental works for ditto,	42	0	0	
Ditto ditto ditto Rupchand Mistry for Plank for Suspension-shelf, per Bill,	33	0	0	
Ditto ditto ditto Cooley-hire to bring the plank to the Society,	0	10	6	
Ditto ditto ditto, ditto for raising and fixing the shelf in its proper position, ..	0	4	0	
Ditto ditto ditto for 4 coolies for their working 3 days to remove Book-shelves with Oriental works from the Society's room, at 3 as. per day, ..	2	4	0	
Ditto ditto ditto for 3 Coolies for work done in arranging the Bibliotheca Indica, at 3 as. ..	0	9	0	
Ditto 22nd ditto, G. Adams, Esq., Offg. Govt. Agent, to be invested in Govt. Security, ..	1,050	0	0	
				1,622 8 6
October 5th ditto, Babu R. L. Mittra his salary and Establishment for the custody of Oriental works for September last,	42	0	0	
Ditto 11th ditto, Dr. E. Roer his salary for September last,	100	0	0	
Ditto ditto ditto Establishment for ditto,	35	0	0	
Ditto ditto ditto Contingencies,	22	6	0	
Ditto ditto ditto To Cash paid Sarietullah Duf-tory for binding Bibliotheca Indica,	8	0	0	
Ditto ditto ditto Bissonauth Shastry his salary from 13th September to 12th October last being 1 month, at 10 Rs. per mensem,	10	0	0	
				217 6 0
Carried over, ...	5,438	8	3	

Brought forward, Co.'s Rs. 12,818 11 3

Carried over, ... 12,818 11 3

Brought forward, Co.'s Rs.				5,438	8	3
November 4th ditto, Babu R. L. Mittra his salary and Establishment for the custody of Oriental works for October last,	42	0	0			
Ditto ditto ditto Society's Cash on account of last month's Cash short,	0	2	3			
Ditto 23rd ditto, Dr. E. Roer his salary for October last,	100	0	0			
Ditto ditto ditto Establishment for ditto,	35	0	0			
Ditto ditto ditto Contingencies for ditto,	22	0	0			
Ditto ditto ditto Babu R. L. Mittra, Petty charges for ropes on account of tying the Bibliotheca Indica and sundry pieces of wax-cloth for ditto,	0	10	0			
Ditto ditto ditto Sorietullah Duftory for binding Oriental works per Bill,	15	0	0			
					214	12 3
December 4th ditto, Babu R. L. Mittra his salary and Establishment for the custody of Oriental works for November last,	42	0	0			
Ditto ditto ditto Asiatic Society's Cash for last month's Cash short,	7	12	3			
Ditto 18th ditto, Bissonauth Shastry his salary as Pandit from 15th Oct. to 30th Nov. being 1 month and 15 days at 14 per mensem,....	21	0	0			
Ditto ditto ditto R. L. Mittra for Contingent charges,	1	8	0			
Ditto ditto ditto Dr. E. Roer, his salary for November last,	100	0	0			
Ditto ditto ditto Establishment for ditto,	35	0	0			
Ditto ditto ditto Contingencies for ditto,	22	7	6			
					229	11 9
To BALANCE.						
Company's paper of the new 5 per cent. Loan, deposited with the Government Agent,	7,000	0	0			
Cash in the Bank of Bengal,	1,397	15	3			
Cash in hand,	37	11	9			
Cash in the hands of the Government Agent, ..	1,077	15	10			
					9,513	10 10
				Co.'s Rs.....	15,396	11 1

Asiatic Society, }
 1st Jan. 1853. }

Examined and found correct.

A. J. M. MILLS, } *Members of Finance Committee.*
 A. GROTE. }

	Brought forward, Rs...	12,818	11	3
By amount received from the Government Agent on account of interest due on Government Securities in his custody, as per account-current, dated the 15th Sept. 1852, ..	1,521	15	10	
By amount invested in Government Security on the 22nd Sept. last,	1,050	0	0	
				<hr/>
				2,577 15 10

Company's Rupecs,..	15,396	11	1
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Errors and Omissions Excepted.
ISHANCHANDRA MAZUMDAR.
Accountant.

Liabilities.

By Amount due to Sir J. Colvile, Kt.,	Rs.	791	8	0
Ditto ditto J. W. Laidlay, Esq.,	418	7	4	
Ditto ditto Dr. Sprenger and Capt. Nicholls, ..	7	10	6	
Ditto ditto Baptist Mission Press, for printing the Journal, No. IV. to VII. of 1852, say,	800	0	0	
Ditto for plates for the above, say,	250	0	0	
	1,050	0	0	
Ditto Messrs. Smith, Elder and Co. for books, as per account, £17. 17. 6. say at 2 shillings per Rupee,	178	12	0	
Ditto Lieut. E. Raverty and B. H. Hodg- son, Esq. on Account of their Deposits,	61	4	0	
Ditto Sundries on Account of Subscrip- tion to the Bibliotheca Indica paid in Advance,	50	0	0	
Ditto Establishment for December, 1852,	826	8	0	
Company's Rupees,	3,384	1	10	

Assets.

Cash Balance,	Rs.	3,638	3	3
Amount of Bills outstanding on Account Con- tribution and Admission Fees,	9,631	10	8	
Ditto on Account Subscription to the Journal, 2,612	5	0		
Ditto on Account Sale of Books,	982	4	0	
Ditto on Account Subscription to the Bibliotheca Indica,	159	0	0	
Ditto due from the Batavian Society of Sciences and Arts for books purchased for, and supplied to, them,	83	1	9	
Balance due from Mr. Bennett,	304	1	4	
Ditto Government grants for December, 1852, Ditto from B. H. Hodgson, Esq.	614	0	0	
	33	10	0	
Company's Rupees,	18,058	4	0	

E. E.

A. J. M. MILLS, } *Members of the Finance Committee.*
A. GROTE, }

1st January, 1853.

LIST OF MEMBERS
OF THE
ASIATIC SOCIETY OF BENGAL.

- Anderson, W. Major, Bengal Artillery, Ishapur.
Ardall, J. Esq., Calcutta.
Abbott, J. Major, Bengal Artillery, Punjab.
Allen, C. Esq. B. C. S., Calcutta.
Barlow, R. Sir, Bart. B. C. S., Calcutta.
Beaufort, F. L. Esq. B. C. S., Pubnah.
Birch, R. J. H. Lieut.-Col., Calcutta.
Blagrove, T. C. Captain, 26th Regt. B. N. I., Trans-Sutledge Provinces.
Bogle, A. Lieut. Col. Amherst.
*Benson, R. Colonel, Europe.
Batten, J. H. Esq. B. C. S., Almorah.
Beckwith, J. Esq., Calcutta.
Bell, A. Dr. B. M. S., Lucknow.
Blundell, E. A. Esq. C. S., Penang.
Banks, G. S. Major, Calcutta.
Beadon, C. Esq. B. C. S., Calcutta.
Bruce, R. C. D, Captain, H. M. 29th Foot, Wazirabad.
Byng, R. B. P. Hon. Capt. 62d Regt. B. N. I., Darjeeling.
Boyes, W. E. J. Captain, 6th B. L. C., Meerut.
Baker, W. E. Major, B. E., Calcutta.
Bayley, H. V. Esq. B. C. S., Calcutta.
Bowring, L. B. Esq. B. C. S., Umballah.
*Brodie, T. Captain, 5th Regt. B. N. I. Europe.
Burgess, F. S. Lieut. 74th Regt. B. N. I., Pellibheet.
Cust, R. N. Esq. B. C. S., Banda.
Christison, A. Dr. B. M. S., Rangoon.
*Clint, L. Esq. Europe.

* Absent from India.

- Campbell, A. Dr. B. M. S., Darjeeling.
Cheap, G. C. Esq. B. C. S., Rajshaye.
Colvin, J. R. Esq. B. C. S., Calcutta.
Colvin, B. J. Esq. B. C. S., Calcutta.
*Colvin, J. H. B. Esq. B. C. S. Europe.
Corbyn F. Esq. B. M. S., Lahore.
Colvile, Hon'ble Sir J. W., Calcutta.
Cautley, P. T. Col., F. R. S., Bengal Artillery, Roorkee.
Colebrooke, E. Esq., Calcutta.
Douglas, C. Captain, B. A., Mooltan.
Dwarkanath Doss Basu, Babu, B. M. S., Punjab.
Dalton, E. T. Lieut. 9th Regt. B. N. I., Assam.
*Earle, W. Esq. Europe.
Edgeworth, M. P. Esq. B. C. S., Mooltan.
Elliott, W. Esq. M. C. S., Vizagapatam.
*Elliott, H. M. Sir, B. C. S. Cape of Good Hope.
Frith, R. W. G. Esq., Jessore.
Faithfull, G. Lieut. 68th Regt. B. N. I., Akyab.
Fayrer, J. Dr. B. M. S., Rangoon.
French, G. R. Esq., Nowhatta.
Falconer, H. Dr., B. M. S. F. R. S., Botanical Garden, Seebpúr.
Forbes, W. N. Col., B. E., Calcutta.
Fytche, A. Captain, 70th Regt. B. N. I., Bassein.
Gubbins, C. Esq. B. C. S., Meerut.
Govinda Chandra Sena, Babu, Calcutta.
Grote, A. Esq. B. C. S., Calcutta.
*Gladstone, M. Esq. Europe.
Gray, J. J. Esq., Maldah.
Gyanendra Mohana Tagore, Babu, Calcutta.
Hodgson, B. H. Esq. B. C. S., Calcutta.
Houstoun, R. Esq. B. C. S., Chittagong.
Hopkinson, H. Captain, 70th Regt. B. N. I., Arracan.
Hannington, J. C. Major, 24th Regt. B. N. I., Hazareebaugh.
Hall, F. E. Esq., Benares.
Hamilton, R. N. C. Esq. B. C. S., Indore.
Huffnagle, C. Esq., Calcutta.
Hearsey, J. B. Col. 10th Light Cavalry, Wuzeerabad.

- Heatly, S. G. T. Esq., Chandernagore.
 Hayes, F. C. C. Captain, Lucknow.
 Jerdon, T. C. Esq., Madras.
 Jackson, W. B. Esq. B. C. S., Calcutta.
 Jackson, L. S. Esq. B. C. S., Shahabad.
 Jenkins, F. Lieut.-Col., Assam.
 *James, H. C. Lieut. 32nd Regt. B. N. I., Europe.
 Jádabakrishna Sinha Babu, Calcutta.
 Kittoe, M. Major, Benares.
 Kay, W. Rev., Bishop's College, Howrah.
 *Laidlay, J. W. Esq. Europe.
 Layard, F. P. Captain, 19th Regt. B. N. I., Berhampore.
 Latter, T. Captain, 17th Regt. B. N. I., Prome.
 Loch, G. Esq. B. C. S., Moorshedabad.
 Logan, J. R. Esq., Singapore.
 Lawrence, Col. Sir H. M., Lahore.
 Lees, W. Captain, 42nd Regt. B. N. I., Benares.
 Muir, J. Esq. B. C. S., Futteghur.
 *Maclagan, R. Lieut. B. E., Europe.
 Money, D. J. Esq. B. C. S., Moorshedabad.
 Morton, D. T. Esq. M. M. S., Moulmein.
 Marshman, J. C. Esq., Serampore.
 Martin, W. Esq., B. M. S., Calcutta.
 Mills, A. J. M. Esq. B. C. S., Calcutta.
 Mitchell, A. Esq., Calcutta.
 Manickjee Rustomjee, Esq., Calcutta.
 Newmarch, J. Esq., Calcutta.
 Nicholls, F. W. Captain, 44th Regt., M. N. I., Saugor.
 *O'Shaughnessy, Dr. W. B., F. R. S., B. M. S. Europe.
 Oldham, T. Professor, F. R. S., Cherra Punji.
 Ommaney, M. C. Esq. B. C. S., Jaunpore.
 Ouseley, R. Major, 50th Regt. B. N. I., Benares.
 Peel, L. Hon'ble Sir, Calcutta.
 Phayre, A. P. Captain, Rangoon.
 †Prinsep, C. R. Esq., Calcutta.
 Prosonno Coomar Tagore, Babu, Calcutta.

* Absent from India.

† Exempt from payment of subscription, according to the old rules.

- Pratt, J. H. Venerable Archdeacon, Lahore.
Pratápchandra Singh, Raja, Calcutta.
Rammanath Tagore, Babu, Calcutta.
Ramgopaul Ghose, Babu, Calcutta.
Ramchundra Singh, Raja, Nishapore, Moorshedabad.
Ramáprosád Roy, Babu, Calcutta.
Rogers, T. E. Captain, Calcutta.
Row, J. Dr. B. M. S., Dacca.
*Royle, Dr. J., London.
Rajendra Datta, Babu, Calcutta.
Rammánáth Banerjee, Babu, Calcutta.
Stephens, Captain, 8th Regt. B. N. I., Shajehanpur.
Seton Karr, W. Esq. B. C. S., Calcutta.
Sleeman, W. H. Lieut.-Col., Lucknow.
Sherwill, W. S. Captain, 66th Regt. B. N. I., Berhampore.
Spilsbury, G. G. Esq. B. M. S., Cawnpore.
Stewart, Dr. D., B. M. S., Calcutta.
Samuells, E. A. Esq. B. C. S., Calcutta.
Suttchurn Ghosaul, Raja, Calcutta.
Shave, J. T. Esq., Jessore.
Smith, W. O. Rev., Calcutta.
Sprenger, A. Dr., B. M. S., Calcutta.
*Strachey, R. Lieut., B. E. Europe.
*Strachey, J. E. Esq. B. C. S. Do.
†Strong, Dr. F. P., B. M. S., Calcutta.
Thomason, J. Hon'ble, B. C. S., Agra.
Trevor, C. B. Esq. B. C. S., Calcutta.
*Thornhill, C. B. Esq. B. C. S. Europe.
Thuillier, H. E. L. Captain, Calcutta.
Thurburn, F. A. V. Captain, 14th Regt. B. N. I., Bhopal,
*Thurburn, R. V. Esq. Europe.
Wilson, Daniel, the Right Rev. Dr., Bishop of Calcutta.
Willis, J. Esq., Calcutta.
Walker, H. Esq. B. M. S., Calcutta.

* Absent from India.

† Exempt from payment of subscription, according to the old rules.

Waugh, A. S. Col., B. E., Darjeeling.

Watkins, C. T. Esq., Calcutta.

Woodrow, H. Esq., Calcutta.

Ward, J. J. Esq. B. C. S., Burdwan.

*Wallich, N. Dr., B. M. S., F. R. S., London.

LOSS OF MEMBERS DURING THE YEAR 1852.

By Death.

Mackintosh, W. Esq.

Torrens, H. W. Esq. B. C. S.

By Withdrawal.

Broome, Capt. A.

Buckland, C. T. Esq. B. C. S.

Erskine, J. C. Hon'ble, Esq. B. C. S.

Harimohana Sena, Babu.

LIST OF MEMBERS ELECTED DURING THE YEAR 1852.

Allen, C. Esq. B. C. S.

Burgess, F. J. Lieut. 74th Regt. B. N. I.

Christison, A. Dr., B. M. S.

Clint, L. Esq.

Gyanendro Mohun Tagore, Babu.

Lees, W. Lieut. 42nd Regt. B. N. I.

Nicholls, F. W. Captain, 44th Regt. M. N. I.

Rammanath Bannerjya, Babu.

Ward, J. J. Esq., B. C. S.

Manickjee Rustomjee, Esq.

ASSOCIATE MEMBERS.

Blyth, E. Esq., Calcutta.

Keramut Ali, Syed, Hoogly.

Long, J. Rev., Calcutta.

McGowan, J. Dr., Ningpo, China.

Piddington, H. Esq., Calcutta.

Stephenson, J. Esq.

Röer, J. Dr., Howrah.

Tregear, V. Esq., Bareilly.

LIST OF HONORARY MEMBERS.

Baron von Hammer-Purgstall, Aulic Counsellor, Vienna.

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Rangoon, 1st November, 1852.

Meteorological Register kept at Rangoon.

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J. FAYNER, M. D.
Assistant Surgeon, Field Hospital.

Meteorological Register kept at the Field Hospital, Rangoon, for the Month of October, 1852.

AT SUNRISE.

AT 9 A. M.

AT NOON.

Date.	Thermometer.		Aneroid Barometer.	Force and direction of Wind.	Aspect of Sky.	Thermometer.		Aneroid Barometer.	Force and direction of Wind.	Aspect of Sky.	Thermometer.		Aneroid Barometer.	Force and direction of Wind.	Aspect of Sky.
	Wet.	Dry.				Wet.	Dry.				Wet.	Dry.			
1	77	78	30.04	E. light.	Cirri.	79	82	30.07	W. light.	Cumuli.	80	88	30.04	S. W. light	Cumuli.
2	75	77	.02	S. W. do.	Fog.	79	81	.06	Ditto.	Ditto.	80	89	30.	W. do.	Ditto.
3	78	80	.03	N. E. do.	Hazy.	79.5	82.5	.05	N. E. do.	C.-cumuli.	78.5	89	30.01	E. do.	Ditto.
4	77.5	79.5	.05	Ditto.	Ditto.	80.5	86	.06	E. do.	Cumuli.	80.5	91	30.04	Ditto.	Ditto.
5	78	82	.05	E. do.	Ditto.	80	84	.07	S. E. do.	Clear.	81	89.5	.05	E. b. S. do.	Ditto.
6	76	78	.09	Ditto.	Clear.	80	86	.10	Ditto.	Ditto.	80	90	.09	E. do.	Cirri.
7	77	79	.07	Ditto.	Ditto.	80	85.5	.11	E. do.	Ditto.	77.5	88.5	.09	Ditto.	Ditto.
8	75	78	.07	Ditto.	Ditto.	78	82	.09	N. E. do.	Ditto.	78	88	.06	E. b. N. do.	Ditto.
9	76	78	.06	Ditto.	Cirri.	78	83	.09	Ditto.	Ditto.	79	89	.05	E. do.	Cumuli.
10	76	78	.04	N. do.	Ditto.	78	83	.10	Ditto.	Ditto.	80	88.5	.09	N. E. do.	C.-cumuli.
11	77.5	78.5	.05	N. W. do.	Fog.	79.5	82	.07	N. b. W. lt.	Cirri.	81.5	89.5	.04	Ditto.	Cumuli.
12	79	81	.03	N. do.	Ditto.	80	85	.07	Ditto.	Ditto.	81	91	.03	N. b. W. do.	Ditto.
13	78	80	.05	Calm.	Cumuli.	79.5	82	.05	Ditto.	Cirro-strati.	80	84.5	.02	Ditto.	Cirro-strati.
14	75	77.5	.05	N. E. lt.	Ditto.	79	81.5	.05	N. E. do.	Cumuli.	77.5	82	.02	E. do.	Cumuli.
15	75	77.5	.05	Ditto.	Ditto.	77	79	.06	ENE. do.	Ditto.	80	88	.03	S. E. do.	Ditto.
16	76	78.5	.02	Ditto.	Ditto.	78.5	81	.04	N. E. do.	Ditto.	77.5	82	.04	Ditto.	Ditto.
17	76	78.5	.05	Ditto.	Ditto.	78	82	.07	Ditto.	Ditto.	79.5	84	.03	E. do.	Ditto.
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19	76.5	78	.05	Ditto.	C.-Cumuli.	78	83	.12	Ditto.	Ditto.	79	88	.01	N. E. do.	Ditto.
20	75.5	77.5	.10	Ditto.	Cumuli.	79	82	.12	Ditto.	Ditto.	78.5	84	.09	Ditto.	Ditto.
21	73.5	75.5	.12	E. b. N. do.	Cirro-strati.	75.5	78.5	.15	E. b. N. lt	C.-cumuli.	78	87.5	.07	E. b. S. do.	Ditto.
22	75	77	.11	North do.	C.-Cumuli.	76	78	.14	Ditto.	Ditto.	78	83.5	.10	E. b. N. do.	C.-strati.
23	72.5	75.5	.11	N. E. do.	Ditto.	75	79	.13	Ditto.	Ditto.	77	86	.07	Ditto.	Cumuli.
24	75	77	.13	Ditto.	Ditto.	77	83	.14	Ditto.	Ditto.	..	..	..	..	..
25	72	75	.12	Calm.	Clear.	75	78	.13	E. do.	Clear.	77.5	86.5	.09	E. do.	Ditto.
26	73	76	.10	Ditto.	Ditto.	76.5	83	.11	Calm.	Ditto.	77	88.5	.06	Ditto.	Ditto.
27	74	76.5	.17	Ditto.	Ditto.	76.5	81.5	.11	Ditto.	Ditto.	76.5	88	.05	S. E. do.	C.-cumuli.
28	73	75.5	.11	Ditto.	Ditto.	76	79	.12	Ditto.	Ditto.	76	87	.10	Ditto.	Cirri.
29	71	74	.12	N. E. lt.	Ditto.	74	77.5	.13	Ditto.	Ditto.	76.5	87	.11	N. E. do.	Cumuli.
30	72	75	.12	Calm.	Ditto.	75	82	.11	Ditto.	Ditto.	77	86.5	.08	Ditto.	Ditto.
31	73	76	.09	Ditto.	Ditto.	75	84	.11	N. E. lt.	Ditto.	76	88	.06	Ditto.	Ditto.
Total.	2258.0	2327.0	902.27			2332.0	2456.0	902.83			2278.5	2532.0	8716.2		
Mean.	75° 2667	77° 5667	30.0756			77° 7334	81° 8667	30.0943			78.5689	87.3104	30.0558		

Mean of 30 observations.

Mean of 30 observations.

Mean of 29 observations.

Meteorological Register kept at the Field Hospital, Rangoon—(Continued.)

At 3 P. M.					At Sunset.					At 9 P. M.					Rain Gauge.	Remarks.
Thermometer.		Aneroid Barometer.	Force and direction of Wind.	Aspect of Sky.	Thermometer.		Aneroid Barometer.	Force and direction of Wind.	Aspect of Sky.	Thermometer.		Aneroid Barometer.	Force and direction of Wind.	Aspect of Sky.	At Sunrise. Inches.	
Wet.	Dry.				Wet.	Dry.				Wet.	Dry.					
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Heavy after sun-Ditto. [rise.
80	91	29.97	S. W. lt.	Cumuli.	..	..	..	..	..	79	82	30.03	S. W. lt.	Clear.	..	
80	88	.98	S. do.	Ditto.	..	..	..	..	..	78	82	.03	E. do.	Cirri.	..	
76	90	30.02	E. do.	Calm.	..	..	..	..	..	79	84	.05	Calm.	Clear.	0.24	Shower yesterday at 2 P. M.
80	90.5	.03	S. E. do	Clear.	..	..	..	..	..	..	..	..	..	..	..
81	99.5	.05	Ditto.	Ditto.	..	..	..	..	..	78	84	.07	S. E. do.	Cirri.	..	
82	89	.04	E. do.	Cirri.	..	..	..	..	..	78	82	.05	E. do.	Ditto.	..	
77.5	89.5	.01	N. E. do.	Ditto.	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	77	82	.04	N. E. do.	Ditto.	..	
80	91	.04	N. b. W. lt	Ditto.	..	..	..	..	..	..	..	..	..	..	0.30	Shower yesterday about noon.
81	92	.02	N. W. do.	Ditto.	..	..	..	..	..	81	84	.06	N. lt.	Ditto.	..	
81	93	30.	Ditto.	Ditto.	..	..	..	..	..	79	85	.07	N. W. do.	Ditto.	..	Showering.
80	86.5	29.99	W. do.	Cumuli.	80	83	30.01	E. light.	Cumuli.	80	82.5	.03	W. do.	Cumuli.	0.50	Thunder during the night.
78	81.5	.97	E. do.	C. strati.	..	..	..	..	..	77	80	.03	W. do.	C. cuml.	..	
79	85.5	.99	S. E. do.	Cumuli.	78	82	30.	S. E. do.	Cirri.	77.5	80.5	.03	S. E. do.	Cirri.	0.20	
78.5	83.5	30.	E. do.	C. cuml.	..	..	..	..	..	..	..	..	..	..	..
78	83	30.03	S. E. do.	Cirri.	..	..	..	..	..	..	..	..	..	..	0.20	Rain yesterday.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.10	Ditto.
78	87	30.06	E. fresh.	Cumuli.	78	82	30.09	E. do.	Ditto.	77	80	.10	Ditto.	Ditto.	..	[ther.
79	86	.05	Ditto.	Ditto.	79	83	30.07	S. E. do.	Ditto.	78.5	82	.10	Calm.	Clear.	..	Fine clear wea-
79	86	.05	E. b. S. lt.	Ditto.	80	86	.07	N. E. do.	Ditto.	78	82	.11	Ditto.	Ditto.	..	Ditto.
76	86	.06	E. do.	C. cuml.	..	..	..	..	..	77	80.5	.10	N. lt.	Ditto.	..	Ditto.
78	87.5	.06	Ditto.	Ditto.	..	..	..	..	..	78	83	.11	Calm.	Ditto.	..	Ditto.
75.5	86.5	.07	E. b. S. do.	Ditto.	74.5	82	.07	E. do.	Ditto.	75	80	.12	Ditto.	Ditto.	..	Ditto.
77	87	.06	Ditto.	Ditto.	73.5	86.5	.07	Calm.	Calm.	75	81	.10	Ditto.	Ditto.	..	Ditto.
77	86.5	.04	E. S. E. do.	Ditto.	..	..	..	..	..	75	80	.07	Ditto.	Ditto.	..	Ditto.
77	87	.06	Ditto.	Clear.	..	..	..	..	..	77	81	.06	Ditto.	Ditto.	..	Ditto.
..	..	..	..	..	..	..	..	..	..	73	78	.10	Ditto.	Ditto.	..	Ditto.
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Ditto.
..	
..	
1882.5	2104.0	720.65			543.0	584.5	210.38			1627.1	1715.5	631.46			1.54	
18.2708	87.6667	30.02709			77.5711	83.5	30.03428			77.4809	81.696	30.0695				Fell on 6 days.

Mean of 24 observations.

Mean of 7 observations.

Mean of 21 observations.

J. FAYRER.

REMARKS.

On the 3rd, a heavy shower of rain fell. Prevailing winds up to 3rd E. N. E., E. S. E.; very cool air, but hot sun. A catarrhal complaint beginning to appear.

9th. At noon to-day a shower fell with squall of wind from N. E., during which the rain was heavy, 0.3 inches, having fallen. The first rain we have had from the N. East.

12th. Weather continues hot with fine clear atmosphere; winds prevailing in the E. and N. E., and very light.

14th. A heavy shower, accompanied by thunder and lightning, fell last night. The winds much cooler and the sky more cloudy.

The latter half of the month has been beautifully fine and clear. The sun during the day hot, but the nights cool; air dry, and wind prevailing (generally very light) in the East, S. E., and N. E.

J. FAYRER.

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of November, 1852.

Date.	Observations made at 6 A. M.						Observations made at 10 A. M.						Observations made at Apparent Noon.					
	Bar. red. to 32° F.	Temperature.			Wind. Direction at 6 A. M.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind. Direction at 10 A. M.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind. Direction at Noon.	Aspect of Sky.
		Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.		
1	Inches 29.971	18.1	75.0	71.4	....	Cloudless [W.	Inches 30.029	19.1	81.7	71.7	W N. W.	Cloudless	Inches 29.980	82.5	81.5	71.5	W. S. W.	C. cuml. near E. H.
2	.. 965	70.8	69.9	67.4	N. W.	C. st. rod. H. expt.	.. 029	76.9	79.0	68.1	N. N. W.	Ditto	.. 977	80.9	83.5	68.5	W. S. W.	Curri
3	30.006	69.8	70.0	68.2	W.	Cloudless	.. 066	77.4	79.4	69.6	W.	Ditto	30.019	81.0	83.0	70.8	W.	Cuml. near E. H.
4	.. 021	69.8	69.9	67.4	S. S. W.	Ditto [N. W. H.	.. 069	78.0	80.5	69.8	S	Ditto	.. 015	81.3	82.7	70.4	N. W.	Cirro-cumuli
5	.. 008	69.8	69.8	67.9	Calm.	C. st. near the S. &	.. 062	76.6	78.7	69.9	W.	Ditto	.. 002	80.1	82.2	70.5	W.	Scatd. cumuli
6	29.991	70.0	70.2	68.5	W.	Foggy	.. 056	77.4	79.7	70.5	N. N. E.	Cir. st. near E. H.	.. 009	80.9	82.1	71.5	N.	Cumuli
7 S.	..	..	..	..	....	Overcast	..	..	..	..	..	Cloudy	..	..	..	..	..	..
8	30.009	71.7	72.2	70.2	N.	Cloudy {horizon	.. 077	76.0	77.5	72.2	N.	Cirro-strati	.. 022	77.0	78.0	72.8	N. W.	Cloudy
9	29.991	73.0	73.3	71.4	Calm.	Cir. st. near the E.	.. 041	76.3	78.4	72.8	N.	Cloudless	29.986	80.2	82.9	74.2	N. W.	Cuml. st. in the E.
10	.. 983	72.8	72.8	71.4	N.	Cloudless	.. 022	79.0	81.0	74.6	N. W.	Cir. st. in the S. E.	.. 977	82.0	83.8	74.7	N. W.	Cuml. [S. to E.
11	.. 963	71.0	71.0	68.7	N.	Ditto	.. 019	77.0	79.2	71.0	N. N. E.	C. st. near H. fr.	.. 976	81.7	84.2	73.3	N.	Fr. sw. tane n. abt.
12	.. 990	69.5	69.5	66.5	....	Ditto	.. 043	77.2	79.0	70.3	N.	C. st. near H. fr.	.. 975	82.0	84.8	71.4	N. W.	C. st. [200 C. st.
13	.. 946	68.1	68.0	65.5	Calm.	Ditto	.. 005	76.2	79.0	69.4	N. W.	Cloudless [to E.	.. 946	81.0	83.0	70.0	W N. W.	..... [of Z.
14 S.	..	..	..	..	....	S. & E. H. C. st.	..	..	..	..	..	C. st. & Cuml. near	..	..	..	..	..	..
15	.. 952	69.6	69.6	67.0	N. W.	Cloudless [the H.	.. 015	75.0	77.2	71.2	N. W.	C. st. near E. S. E. H.	.. 964	79.4	82.0	70.3	N.	Cuml. rod. H. & n. w.
16	.. 949	70.5	70.0	67.0	N. W.	A thick Mi. ro'd	.. 004	76.4	78.8	70.2	N.	Ditto	.. 955	79.7	82.2	70.8	N. W.	Scatd. cumuli
17	.. 940	68.4	68.1	67.1	N. W.	C. st. near the E. H.	29.995	74.8	77.1	70.6	W N. W.	Ditto	.. 928	79.0	81.0	70.1	W N. W.	Ditto
18	.. 901	69.9	69.5	67.5	Calm.	Cloudless	.. 958	75.7	77.7	70.2	W.	Ditto	.. 905	78.9	80.9	70.6	W.	Cuml. round the H.
19	.. 881	68.4	68.8	66.6	Calm.	Scatd. cumuli	.. 938	75.9	78.6	71.0	S.	Ditto [S. to E.	.. 877	80.4	83.0	73.2	S. S. W.	Cloudless
20	.. 849	72.0	72.0	70.2	S.	Cloudless	.. 942	75.7	78.0	71.1	W N. W.	Cuml. near H. fr.	.. 896	80.2	82.6	69.7	N. W.	Ditto
21 S.	..	..	..	..	....	Scatd. cirro-strati	..	..	..	..	..	Cloudless	..	..	..	..	..	..
22	30.003	66.1	66.0	62.8	Calm.	Cloudless	30.068	73.0	75.9	66.8	N.	Ditto	30.019	76.5	78.7	66.5	W.	Cloudless
23	.. 001	65.2	65.7	64.2	N. W.	Ditto	.. 076	72.3	75.0	65.7	N. W.	Ditto	.. 024	76.5	79.0	67.4	N. W.	Cuml. near N. H.
24	29.981	66.0	66.0	63.8	N. W.	Ditto	.. 062	71.6	73.8	67.2	W N. W.	Ditto	.. 010	75.9	78.4	69.2	W.	Cloudless
25	30.010	65.8	65.4	63.0	Calm.	Ditto [the sky	.. 093	72.6	75.7	68.0	N. W.	Ditto [the sky	.. 057	77.3	79.3	67.5	W N. W.	Scatd. cumuli
26	.. 066	65.6	65.7	62.4	N.	Cir. cuml. all over	.. 155	73.0	76.0	68.5	N. N. W.	Cir. cuml. all over	.. 108	76.5	79.8	68.9	N.	Cumuli
27	.. 038	65.5	66.0	63.5	....	Cloudless	.. 090	71.9	74.5	67.5	N. W.	C. st. in the N. W.	.. 025	76.4	78.8	69.3	N. W.	Scatd. cumuli
28 S.	..	..	..	..	....	Cir. st. near E. H.	..	..	..	..	..	Cumulo-strati	..	..	..	..	..	..
29	29.979	66.8	67.0	64.5	N.	C. st. alto's sky &	.. 030	72.5	75.0	68.0	N. N. W.	Cir. st. near E. H.	29.987	75.9	77.4	68.5	N. N. W.	Cloudy
30	.. 960	67.0	67.0	64.0	N.	Th. clds. near E. H.	.. 035	71.3	73.3	64.2	N. W.	Cir. st. near E. H.	.. 993	76.0	78.7	68.5	N. W.	Cirro-strati
Mean	29.975	69.1	69.1	66.9	....	.....	30.037	75.3	77.7	69.6	....	.....	29.986	79.2	81.4	70.2	....	.....

[Meteorological Register, continued.]

Date.	Observations made at 3 P. M.					Minimum Pressure observed at 4 P. M.					Observations made at 5 P. M.					Maximum and Minimum Thermometer.			Max. Therm. in Sun's rays.	Rain Gauges.		Moon's Phase.			
	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.		Max.	Mean.		Min.	Feet, 60, Upper	Feet, 5, Lower
		Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.										Of Mer.	Of Air.	W. Bulb.
Inches	°	°	°			Inches	°	°	°			Inches	°	°	°			°	°	°			Inches	Inches	
1	29.920	85.4	86.0	71.3	W.	C.-cl. all red. H.	29.921	85.0	85.0	71.0	S. W.	Scatd. cumuli	29.924	83.8	83.0	71.6	S. W.	Clm in E. & S. W.	87.5	78.8	70.0	..	..
2	.916	84.9	85.8	68.8	W.	C.-st. [E. of Z.	.917	84.2	84.2	69.0	NNW	Cirri & Cir.-st	.926	83.1	82.9	71.0	NNW	Cirro-strati [C.-st.	85.5	75.8	66.0	102.0	..		
3	.946	84.0	85.0	70.4	N. W.	Cl. n. s. w. h. s. e.	.947	83.4	83.3	70.2	w. s. w.	C.-cl. on Z. & s. w.	.954	82.2	81.4	69.8	W.	Fr. Z. to w. s. w. hor.	85.2	75.9	66.6	..	..
4	.951	83.8	84.4	69.8	W.	Cirri all red. Z.	.952	83.3	83.0	69.6	N. W.	C. all rd. Z. [of n.	.964	82.0	82.0	71.0	N. W.	Crs. abo. Z. & C.-s.	84.8	75.7	66.5	99.4	..		
5	.916	83.4	83.9	71.0	W.	A cirrus in W	.914	82.9	82.8	71.0	N. W.	Cloudless	.928	81.6	81.3	71.1	W.	Cloudless [in n. w.	84.5	75.3	66.0	99.8	..		
6	.953	83.6	85.0	72.1	N.	Cumuli	.948	82.9	82.8	70.8	N. W.	Cumuli	.956	81.8	81.6	71.0	N. W.	Cir.-st. & cumuli	84.9	73.2	61.5	101.5	..		
7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8	.963	76.9	77.2	71.3	N. W.	Cloudy	.968	77.0	77.2	71.7	N.	Cloudy	.971	76.6	76.8	72.2	W.	Cloudy	..	..	..	..	..
9	.913	83.5	82.9	71.6	N.	Scatd. cumuli	.915	82.6	83.5	72.1	N.	Scatd. cumuli	.923	81.8	81.6	72.8	N.	Cumulo st [S. W.	84.6	77.8	71.0	104.7	..		
10	.914	85.4	86.3	74.5	N. W.	Cumuli [S. to E.	.896	81.8	84.2	73.8	N. W.	Cumuli [S. to E.	.903	83.2	82.9	73.3	N. W.	C.-st tow'd s. s. e. & s.	86.3	77.9	69.4	102.2	..		
11	.915	85.0	85.6	72.8	NNW	C.-st. near H. fr.	.911	84.0	83.4	71.4	N. W.	C.-s. near H. fr.	.927	82.5	82.2	72.4	N. W.	C.-s. n. H. fr. s. to E.	86.0	76.8	67.5	100.5	..		
12	.913	84.6	85.0	68.0	NNW	Fr. s. to n. e. c. s.	.902	83.5	83.3	68.7	N. W.	Fr. S. to NE. H.	.907	81.8	81.4	69.0	N. W.	Fr. s. to n. e. m. C.-st.	85.6	..	..	101.0	..
13	.861	83.8	84.8	70.0	N. W.	Cloudless	.852	83.0	82.3	68.0	w. s. w.	Cloudless [C.-s.	.858	81.0	80.7	68.7	NNW	Cloudless	84.5	77.8	71.0	99.1	..		
14	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15	.903	82.2	83.3	71.0	N.	Scatd. cumuli	.900	81.8	81.8	70.4	N. W.	Scatd. cumuli	.907	80.8	80.6	70.0	N. W.	Scatd. cumuli	83.5	71.0	64.4	102.1	..		
16	.889	83.1	82.9	69.9	w. s. w.	Cloudless	.891	82.0	81.4	69.9	w. s. w.	Cloudless	.897	80.5	80.0	70.1	Calm.	Cloudless	82.4	75.1	67.7	99.0	..		
17	.863	82.4	83.0	70.8	N. W.	Scatd. cumuli	.852	81.6	81.5	69.0	N. W.	Scatd. cumuli	.850	80.0	79.4	71.0	N. W.	Scatd. cumuli	83.1	76.2	69.0	104.2	..		
18	.850	82.8	83.1	70.1	W.	Cirro-cumuli	.850	81.5	81.5	69.9	N. W.	Cles. [in s. w. z.	.866	80.2	79.9	69.8	N. W.	Cles. [in fr. s. to w.	84.0	75.0	66.0	97.0	..		
19	.796	84.8	85.2	72.3	S. W.	Scatd. cumuli	.795	84.0	83.8	74.6	S.	Cl. n. s. & n. e. c. s.	.805	82.2	80.8	73.8	S.	Cirri n. & n. e. c. s. u.	85.8	75.4	65.0	98.8	..		
20	.825	83.7	84.0	66.8	W.	Cloudless	.829	82.4	82.2	66.2	W.	Cloudless	.841	80.8	80.0	68.5	Calm.	Cloudless	84.3	..	..	97.3	..
21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	.944	80.4	81.0	67.3	N. W.	C.-s. in S. & S. E.	.937	79.4	79.1	67.0	N. W.	Cir.-st. in the E.	.947	78.0	77.9	67.2	N. W.	Cloudless	84.0	73.1	62.2	96.1	..		
23	.935	80.3	80.2	68.3	N. W.	Scatd. cumuli	.931	79.4	79.2	67.8	N. W.	C.-st. s. w. of Z.	.935	78.2	77.7	67.9	N. W.	Ditto	81.8	71.9	62.0	95.2	..		
24	.924	79.4	80.9	67.8	W.	Cirro-cumuli	.918	79.2	79.5	67.5	Calm.	C.-cl. on S. & E.	.927	78.0	77.7	67.7	Calm.	Ditto	81.2	..	..	96.2	..
25	.904	80.0	79.9	68.0	N. W.	Scatd. cumuli	.905	78.8	78.7	66.9	N. W.	C.-cmi. abt. Z.	.909	77.2	76.7	67.0	N.	C.-cmi. abt. the Z.	81.4	71.6	61.7	98.5	..		
26	30.032	79.9	80.9	69.0	N. W.	Cumulo-strati	30.019	78.9	78.8	67.6	N. W.	Cirro-cumuli	30.041	77.2	77.0	68.0	N. W.	C.-st. abt. the H.	81.2	71.6	62.0	97.5	..		
27	29.931	80.3	80.7	69.3	NNW	Cloudless	29.929	79.0	79.0	69.2	NNW	Cloudless	29.937	78.0	77.6	68.9	NNW	Cloudless	81.8	71.9	62.0	93.8	..		
28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
29	.915	77.2	78.4	69.0	NNW	Cloudy	.908	77.0	77.4	68.8	NNW	Cloudy	.906	76.5	76.4	68.3	NNW	Cloudy	79.6	..	..	85.3	..
30	.910	80.0	80.7	64.4	N. W.	Cirro-strati	.910	79.0	79.2	63.9	N. W.	Cirro-strati	.925	77.5	77.4	65.6	Calm.	Cirro-strati	79.0	71.0	63.0	..	..
..	29.915	82.4	82.9	69.8	..	..	29.911	81.6	81.5	69.5	..	..	29.910	80.3	79.9	69.9	..	..	83.7	74.8	65.7	98.7	..

Meteorological Register kept at the Surveyor General's Office, Calcutta, for the Month of December, 1852.

Date.	Observations made at Sun-disk.						Maximum Pressure observed at 9 h. 50 m.						Observations made at Apparent Noon.					
	Bar. red. to 32° F.	Temperature.			Wind. Direction at Sun-disk.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind. Direction at 9h. 50m.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind. Direction at Noon.	Aspect of Sky.
		Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.		
	Inches	°	°	°			Inches	°	°	°			Inches	°	°	°		
1	30.025	64.0	63.4	57.2	N. W.	Cirro-strati [E.	30.090	68.6	70.3	60.7	W. N. W.	Cirro-strati	30.042	74.0	77.1	64.7	N.	Cirri tow'ds zen. & Cir.-str. abt hor.
2	.021	63.0	63.0	57.1	N. N. W.	Cirro-strati in the	.078	68.8	71.0	61.0	N. W.	Scatd. cirro-strati	.037	73.9	77.0	64.2	N.	Cirro-strati in E.
3	.036	63.5	63.0	55.0	N. W.	Strati	.087	66.5	68.5	58.0	N. N. W.	Overcast	.037	70.4	72.0	61.1	N. N. W.	Cloudy
4	.049	61.4	62.0	58.8	Calm.	Scatd. cirro-strati	.118	69.0	72.0	64.0	N. N. W.	Scatd. cirro-strati	.069	73.4	76.0	65.8	N. N. W.	Scatd. cirro-strati
5S.																		
6	.045	63.5	64.0	61.2	Calm.	Cir.-c. all ov. Sk.	.120	70.7	73.4	65.7	N.	Cloudless	.058	75.3	78.0	67.8	N.	Cloudy
7	.013	63.0	62.8	61.0	Calm.	Cir.-str. in the E.	.086	71.0	74.5	66.0	N. N. W.	Ditto	.038	75.0	78.0	66.8	W. N. W.	Cloudless
8	29.978	63.6	64.3	62.2	....	Cloudless	.054	71.6	74.3	68.0	N. W.	Ditto	29.991	76.8	78.0	68.0	W.	Ditto
9	.960	68.6	69.0	67.8	S. S. W.	Cloudy	.030	72.3	75.3	72.2	S. S. W.	Cloudy	.974	77.2	80.0	71.4	S. S. W.	Scatd. cumuli
10	.981	70.8	71.3	70.2	N.	Drizzling	.027	71.0	71.4	68.0	N.	Ditto	.996	71.4	71.9	68.2	N. N. W.	Cloudy
11	.990	68.0	68.0	66.8	N.	Cloudy	.050	69.4	70.8	68.4	N.	Ditto	30.005	72.2	73.4	69.2	N. N. W.	Ditto
12S.	30.038	65.6	65.8	65.6	Calm.	Foggy [horizon	.110	68.0	70.2	69.0	N. N. W.	Foggy	.070	73.0	75.6	67.9	N.	Scatd. cumuli
13	.100	61.2	60.8	59.0	Calm.	Cir.-str. near E.	.150	67.8	70.6	62.6	N. N. W.	Cloudless	.093	72.0	73.8	63.0	sw. w. ship.	Cloudless
14	.042	61.5	61.3	57.8	N. N. W.	Cloudless	.083	66.4	69.0	61.6	N. N. W.	Ditto	.032	72.4	75.6	65.6	N. N. W.	Ditto
15	.029	62.4	62.7	59.0	N. N. W.	Ditto	.087	67.6	70.6	63.6	N. N. W.	Cirro-strati in N. W.	.037	73.3	75.6	65.8	N. N. W.	Scatd. cumuli
16	.055	62.0	61.7	59.8	Calm.	Ditto	.121	67.7	70.1	64.6	N. W.	Cloudless	.068	73.1	76.4	67.6	N. W.	Ditto
17	.058	61.3	61.7	59.0	Calm.	Scatd. cirro-strati	.120	66.1	68.7	60.6	N. N. W.	Ditto	.084	72.2	75.0	63.3	N. N. W.	Cloudless
18	.073	57.6	57.3	54.0	Calm.	Cloudless	.126	63.0	66.0	58.2	N. W.	Cirro-strati in W.	.060	69.5	72.3	61.8	N. W.	Cirro-strati [Z.
19S.	.039	61.8	61.4	59.8	N. N. W.	Cirro-cumuli	.103	67.8	70.2	64.2	N.	Cir.-str. abt. zenith	.049	72.6	75.6	66.2	N.	Cir.-cumuli about
20	.059	62.2	62.1	60.4	N.	Scatd. cirro-cumuli	.112	67.8	70.9	65.2	N.	Cloudless	.056	72.6	75.4	66.2	N.	Cloudless
21	.070	63.1	63.2	61.8	N. N. W.	Th. clds. E & W. h	.133	68.9	71.9	65.8	N. N. W.	Mty. hor. - Z. cl.	.081	74.1	76.9	67.6	N. W.	Cumuli in the E.
22	.064	63.2	62.8	59.2	N. N. W.	Scatd. cirro-cumuli	.134	67.7	71.0	62.0	N. N. W.	C.-cum. alto'er sky	.071	73.4	76.3	64.0	N. N. W.	Cloudless
23	.009	60.4	60.2	55.5	N. N. W.	Cloudless	.072	66.1	68.3	61.4	N. N. W.	Cloudless [abt. h.	.004	71.4	74.3	62.2	N.	Ditto
24	29.976	59.0	58.8	55.2	W.	Cir.-str. abt. hor.	.052	64.7	67.1	58.4	N. W.	Cir.-str. N. W. 36°	.005	70.0	72.0	60.0	N. W.	Ditto
25	30.052	56.0	56.0	54.2	Calm.	Cir.-str. abt. zen.	.121	63.7	67.4	59.4	N. W.	Cloudless	.080	69.4	71.4	60.6	N. W.	Ditto
26S.	.082	57.7	57.4	54.4	N.	Scatd. cirro-strati	.135	63.7	66.8	59.4	N.	Scatd. cirro-strati	.080	70.0	72.4	62.0	N. N. W.	Scatd. cirro-strati
27	.106	57.3	57.3	53.6	N.	C.-str. alto'er sky.	.175	63.7	66.9	57.8	N. N. W.	Ditto	.114	69.6	71.6	60.7	N. N. W.	Ditto
28	.034	57.4	57.0	54.9	N. N. W.	Cloudy	.104	61.2	63.2	57.4	N. N. W.	Cloudy	.046	67.4	69.6	61.0	N. W.	Cloudy [sky
29	.025	58.6	58.0	55.5	N.	Ditto	.077	62.6	65.3	59.6	N.	Cir.-str. alto'er sky	.028	68.4	70.7	62.0	N. N. W.	Cir. str. all o'er
30	.060	59.0	58.6	55.8	N.	C.-str. alto'er sky.	.121	62.2	65.1	59.8	N.	Ditto	.048	68.0	70.6	62.0	N. N. W.	Ditto
31	.096	57.0	57.0	53.8	N.	Cloudless	.169	64.6	68.4	59.7	N.	Cloudless	.107	71.5	75.0	62.3	N.	Cloudless
Mean.	30.038	61.8	61.7	58.9	....	.....	30.102	67.0	69.6	62.7	....	.....	30.050	72.1	74.6	64.6	....	.....

[Meteorological Register, continued.]

Date.	Observations made at 2h. 40m.					Minimum Pressure observed at 4 p. m.					Observations made at sun-set.					Maximum and Minimum Thermometer.			Max. Therm. in Sun's rays.	Rain Gauges.		Moon's Phase.			
	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.	Bar. red. to 32° F.	Temperature.			Wind.	Aspect of Sky.		Max.	Mean.		Min.	Elevations.	
		Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.				Of Mer.	Of Air.	W. Bulb.								Of Mer.	Of Air.	W. Bulb.	Feet, 60. Upper	Feet, 5. Lower
Inches	°	°	°	Direction at 2h 40m p. m.		Inches	°	°	°	Direction at 4 p. m.		Inches	°	°	°	Direction at Sun-set.		°	°	°	°	Inch.	Inch.		
1	29.968	78.3	79.0	63.8	N. W.	Scatd. cirro-str.	29.964	77.0	77.0	63.8	N. W.	Scatd. cirro-st	29.977	75.9	75.8	64.8	N. W.	Scatd. cirro-st.	80.0	69.5	58.9	☾ 6 h. A.M.
2	.966	78.3	78.8	65.5	N. W.	Scatd. cirro	.955	76.7	76.8	65.5	W. NW	Cirro-strati	.962	75.7	75.0	66.0	W.	Ditto	80.0	69.5	59.0	..	..	..
3	.975	72.0	72.8	63.3	NNW	C-st. all ov. S.	.960	71.8	72.0	63.5	NNW	C-st. all ov. sky	.971	71.3	71.2	64.0	N. W.	C-st. all ov. sky	73.6	66.3	58.9	..	..	..
4	.988	78.0	78.2	66.3	NNW	Scatd. cirro-str.	.978	76.9	76.4	65.6	NNW	Scatd. cirro-st.	.992	75.5	75.2	66.3	N.	Scatd. cirro-st.	79.5	68.8	58.0	..	..	..
5	..	..	..	..	..	.. [S. to E.	..	..	..	..	..	.. [E. H.	..	..	..	..	..	..	..	..	..	..	..
6	.969	79.5	80.0	67.8	N.	C-st. near H. fr	.961	78.5	78.3	66.3	NNW	C-st. near S. &	.961	76.8	76.1	66.7	NNW	C-st. near S. &	81.3	70.6	59.9	☉ 9 h. A.M.
7	.965	79.0	80.0	68.0	W.	Cloudless [H.	.966	78.2	78.2	66.6	N. W.	Cloudless [H.	.974	76.9	76.4	67.9	N. W.	Cloudless	81.0	70.1	59.1	97.0	..	..
8	.914	79.9	80.3	69.3	WSW	Cum. near S. E.	.912	78.7	78.8	69.0	WSW	Cum. near S. E.	.918	77.0	76.4	69.9	WSW	Ditto	81.4	70.9	60.4	93.0	..	..
9	.913	79.6	80.7	72.0	SS.W.	Cloudy	.904	79.3	80.3	72.4	SS.W.	Cloudy	.918	78.4	78.5	72.8	SS.W.	Cloudy	81.4	73.2	65.0	91.5	0.27	0.26	
10	.944	71.4	71.4	68.5	N. W.	Raining	.943	70.6	69.4	67.4	N.	Raining	.960	68.6	68.3	66.4	N.	Ditto [W. H.	72.4	69.4	66.4	75.4	0.17	0.24	
11	.948	74.1	74.8	69.3	N.	Scatd. clouds	.944	74.0	74.2	68.8	N.	Scatd. cumuli	.956	73.2	72.8	68.7	N.	Cum. st. near N.	75.3	69.7	64.0	92.3	☉ 2 h. P.M.
12	30.011	76.6	77.8	68.0	N.	Cumulo-strati	30.004	75.6	75.0	65.8	NNW	Cumuli	30.018	73.6	72.8	66.0	NNW	Cumuli	77.7	69.8	61.8	91.8	..	..
13	.014	75.4	76.4	63.3	WSW	Cloudless	.015	74.3	74.0	62.9	WSW	Cloudless	.022	72.4	71.7	64.0	NNW	Cloudless	76.4	66.6	56.7	88.5	..	..
14	29.954	77.0	78.4	66.2	NNW	Scatd. cumuli	29.951	76.0	76.0	64.4	N. sp.	Scatd. cumuli	29.964	74.0	73.6	64.6	NNW	Ditto	78.4	67.9	57.4	91.5	..	..
15	.981	77.4	78.6	66.7	N. W.	Ditto	.967	76.4	76.4	65.8	N. W.	Cloudless	.976	74.6	74.2	66.0	N. W.	C-st. near S. H.	79.0	68.9	58.8	93.4	..	..
16	.988	77.6	78.6	66.8	NNW	Cloudless	.985	76.6	76.6	65.4	N. W.	Ditto	.985	74.7	74.2	65.4	N. W.	Scatd. cirro-st.	78.7	68.5	58.3	92.6	☉ 7 h. P.M.
17	30.022	76.0	77.0	62.0	N. W.	Ditto	30.009	74.5	74.2	60.2	NNW	Ditto	30.017	72.4	71.6	62.4	N. W.	C-st. near W. H.	77.0	67.3	57.6	90.0	..	..
18	29.976	74.6	76.0	64.0	N. W.	Cirro-strati	29.964	74.2	74.2	63.8	N. W.	Cirro-strati	29.968	72.4	71.8	65.0	N. W.	Cirro-strati	76.6	65.1	58.5	90.6	..	..
19	.969	75.3	76.6	66.4	N. W.	Scatd. cumuli	.964	75.2	75.5	65.1	N. W.	Scatd. cumuli	.967	73.6	72.8	64.8	N.	C-st. about H.	77.0	67.5	58.0	92.5	..	..
20	.992	77.0	78.3	67.4	N. W.	Cumuli W. H.	.991	75.9	75.6	65.4	N. W.	Cloudless	.996	74.0	73.5	66.7	N. W.	Cloudless	78.8	68.6	58.4	92.4	..	..
21	30.002	77.5	78.0	67.2	W.	Scatd. cumuli	.995	76.6	76.6	67.0	W.	Scatd. cumuli	30.015	74.8	74.2	67.8	W.	C-st. about H.	79.0	69.3	59.6	91.8	☉ 10 h. A.M.
22	29.992	77.0	78.0	64.0	N.	Cloudless	.983	75.6	75.0	62.6	NNW	Cloudless	29.989	73.4	72.4	63.0	NNW	Cloudless	78.4	68.8	59.2	92.2	..	..
23	.930	75.2	76.6	62.5	NNW	Ditto	.920	74.2	73.8	61.4	N. W.	Ditto	.920	72.3	71.4	62.3	W. NW	Ditto	76.6	66.5	56.4	90.2	..	..
24	.951	73.7	74.4	69.4	N. W.	Ditto	.949	72.4	72.0	58.3	N. W.	Ditto	.956	70.4	69.3	59.6	N. W.	Ditto	74.8	64.9	55.0	86.3	..	..
25	30.020	72.8	74.0	61.0	NNW	Ditto	30.013	71.8	71.4	59.4	NNW	Ditto	30.025	70.0	69.2	60.2	NNW	Ditto	74.4	63.4	52.4	88.4	..	..
26	.018	73.2	74.0	61.8	NNW	Scatd. cirro-st.	29.996	72.3	72.3	60.0	N. W.	Scatd. cirro-st.	.003	70.6	69.6	60.8	N. W.	Scatd. cirro-st.	74.7	64.1	53.4	86.3	☉ 7 h. P.M.
27	.034	74.5	75.8	62.4	N.	Ditto	30.019	73.4	73.0	61.4	N.	Ditto	.011	71.4	70.7	61.2	NNW	Ditto	76.3	64.9	53.5	88.6	..	..
28	29.970	72.6	74.6	63.0	N.	Ditto	29.952	72.0	72.3	62.4	N.	Cloudy	29.962	70.0	69.0	62.7	N. W.	Cloudy	74.7	64.1	53.5	88.6	..	..
29	.979	72.3	74.0	63.2	NNW	C-st. all ov. sky	.971	72.2	72.2	62.7	NNW	C-st. all ov. sky	.986	70.4	69.6	62.4	N. W.	C-st. all ov. sky	73.8	64.2	54.6	87.0	..	..
30	30.012	73.6	75.4	63.6	N. W.	Ditto	30.000	73.3	73.3	62.3	NNW	Ditto	.997	71.4	70.3	62.4	NNW	Ditto	75.3	65.3	55.2	87.8	..	..
31	.019	76.8	78.5	63.0	N.	Cloudless	.007	76.4	76.8	61.6	N.	Scatd. cirro-st.	30.009	72.4	71.4	62.8	N. W.	Scatd. cirro-st.	78.6	66.0	53.4	96.7	..	..
..	29.979	75.9	76.0	65.2	29.971	75.0	74.9	64.2	29.979	73.3	72.6	64.8	77.4	67.7	58.2	90.3	0.44	0.50	..



